





























Drawn from Nature by A. Wilson.

Engraved by A. Lawson.

1. Carolina Cuckoo. 2. Black-billed C. 3. Blue Yellow-backed Warbler. 4. Yellow Redpoll W.



AMERICAN ORNITHOLOGY;  
OR,  
THE NATURAL HISTORY  
OF THE  
BIRDS OF THE UNITED STATES.

ILLUSTRATED WITH PLATES

*Engraved and Colored from Original Drawings taken from Nature.*

BY ALEXANDER WILSON.

VOL. IV.

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## PREFACE.

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IN presenting this fourth volume of the American Ornithology to its numerous and highly respectable subscribers, the author is happy to be able to inform them, that the success which he has met with in his late shooting excursions, particularly along our Atlantic coast; and the arrangements made with the engravers and others engaged in the work, will enable him to publish the remaining volumes with more punctuality than it has hitherto been possible for him to do. At the same time, the correct execution of the plates will be rendered more secure, by the constant superintendence of the author; and by the whole of the coloring being performed in his own room, under his immediate inspection. The great precision requisite in this last process, and the difficulty of impressing on the mind of every one whose assistance was found necessary, similar ideas of neatness and accuracy, have been a constant source of anxiety to the author, and of much loss and delay. These difficulties have at length been surmounted, by procuring the services of two able assistants, whose skill and attention leave little further to fear in this department.

Among other improvements which the author has endeavoured to introduce, is that of printing the plates *in colors*; an art in which the French at present excel; and which, when judiciously



employed in works of this kind, gives great softness and effect to the plumage. These and various other arrangements have added heavily to the expense of the publication; but his chief object being a faithful imitation of nature, worthy the esteem of that distinguished portion of the community by whom it is supported, and honorable to the arts and literature of the nation, no obstacles of a mere pecuniary nature have been permitted to stand in the way. Where he fails, (as he often will) want of adequate talents alone must plead his excuse.

The approbation which this attempt, to collect and pourtray the feathered tribes of the United States, has been honored with, both in this country and in Europe, gratifying as it is to the feelings of the author, convinces him, how much still remains to be done before he can hope fully to merit these generous encomiums. It is not sufficient that a work of this kind should speak to the eye alone, its portraits should reach the heart, particularly of our youth, who are generally much interested with subjects of this kind. By entering minutely into the manners of this beautiful portion of the animate creation, and faithfully exhibiting them *as they are*, sentiments of esteem, humanity and admiration will necessarily result. It is chiefly owing to ignorance of their true character, that some of our thoughtless youth delight in wantonly tormenting and destroying those innocent warblers; for who can either respect, pity or admire what they are totally unacquainted with? I am persuaded that no child would injure and abuse even a harmless worm, with whose economy and mode of life he was intimately acquainted. Those few birds who, by their innocent familiarity, have made themselves generally known, are as generally regarded. Witness

the Blue-bird of the United States, and the Robin Red-breast of Britain, equally beloved by the boys of both countries.

To the philosopher, as well as the naturalist, and to every man of feeling, the manners, migration, and immense multitudes of birds in this country, are subjects of interesting and instructive curiosity. From the twenty-first day of March to the first of May, it might with truth be asserted, that at least one hundred million of birds enter Pennsylvania from the south; part on their way farther north, and part to reside during the season. This is no extravagant computation, since it is allowing only about four hundred individuals to each square mile; tho even those resident for the summer would probably average many more. Our forests at that season are every where stored with them; and even the most gloomy swamps and morasses swarm with their respective feathered tenants, and the seats of cultivation contain a still greater proportion. In Mr. Bartram's botanic garden, and the adjoining buildings, comprehending an extent of little more than eight acres, the author has ascertained, during his present summer residence there, that not less than fifty-one\* pair of birds took up their abode and

\* These consisted of

5 pair of House Wrens,	1 pair of Common Pee-wees,
2 — Baltimore Orioles,	1 — Indigo Buntings,
2 — Orchard Orioles,	1 — Yellow-breasted Chats,
3 — Summer Yellow Warblers,	4 — Purple Grakles,
5 — Catbirds,	5 — Song Sparrows,
1 — White-eyed Flycatchers,	3 — Chipping Sparrows,
2 — Warbling Flycatchers,	2 — Chimney Swallows,
1 — Robins,	1 — Purple Martins,
1 — Swamp Sparrows,	10 — Barn Swallows,
1 — Wood Pee-wees,	

Besides several others whose nests could not be found, but which were frequently observed about; such as the Blue Jay, the Humming-bird, Scarlet Tanager, &c. &c.

built their nests within that space. Almost all of these arrived between the above periods; besides multitudes of passengers. Every morning (for evening, night and morning seem their favorite hours of passage) some new strangers were heard or seen flitting through the arbours, until one general concert seemed to prevail from every part of the garden.

That these migrations are not performed in one continued journey; but in occasional and leisurely progression, seems highly probable, from the length of time that usually elapses between their first entering the southern boundaries of the United States, and their appearance in the northern or middle states. In 1809 the Purple Martins arrived at Savannah on the second day of March; but did not reach Philadelphia until the twenty-fifth day of the same month. The Catbirds were first heard at Savannah early in March; but did not arrive in the neighbourhood of Philadelphia until late in April. Many other species, whose arrivals were noted in the same season, at both places, varied from three to five weeks; among which latter number was the Humming-bird, which arrived at Savannah about the twenty-third of March; but rarely reaches Philadelphia much before the first of May. In short, these little winged pilgrims, some of whom have several thousand miles of country to pass over, in their progressive advances north, seem to follow in the joyous train of spring, hailing her with their melody, while she unfolds the infant leaves, spreads a carpet of living green over the smiling fields, and diffuses warmth and balmy fragrance over the face of nature. By the first of May the whole woods are vocal; and the great business of building and incubation is



going rapidly forward. These sexual attachments are frequently formed before the arrival of the parties, and some doubtless exist for several years. During its continuance the most perfect chastity seems to be observed, each being wholly devoted to the other. A spot is selected and mutually agreed on, for the site of their nest, which is constructed by the joint labor and ingenuity of both. At this interesting season how assiduous are their labours! How patient does the zealous female sit, for days and weeks, while the habitual love of activity, the charms of the season, and every object around seem to tempt her away! And with what vigilance does her faithful partner stand sentinel on some pinnacle near the spot, to guard her from surprise, and to enliven the tedious hours with his cheerful and animated song! Visiting her in her confinement, as an affectionate husband would a beloved wife, feeding her from his mouth, and warbling to her in strains of soothing gratulation! When the naked, feeble, and helpless brood first appear, every sensation of affection becomes more exquisite, more ardent and active. They are never left for a moment alone, one parent usually watching their slumbers, while the other is in search of food for their support. All night long, as well as during the cool damps of morning, and on the appearance of the least inclemency of weather, she covers them with her body to secure them from the slightest cold. Should her mate fall by the cruelty of man, she redoubles all her care; seems wholly engrossed by her charge; and is herself their sole supporter, friend and protector. When at last danger comes suddenly, her affection is never taken by surprise; she instantly throws herself between them and the enemy, invites

all his attention on herself; and saves their lives at the expense of her own.

Is it possible for a rational and intelligent being to contemplate these scenes without interest and without admiration? Innocency has charms that arrest almost every beholder, and can we survey the sportive and endearing manners of these with indifference? Men join with reverence in praises to the great Creator, and can they listen with contempt to the melodious strains, the hymns of praise, which these joyful little creatures offer up every morning to the Fountain of light and life? Who can contemplate, unmoved, the distress of a fond mother for her dying infant! And has that tender mother no claims on our sympathy, who, unprotected herself, prefers death rather than her young should suffer? Is tenderness of heart, fidelity, and parental affection, only lovely when they exist among men? Oh no! it is impossible!—Those virtues that are esteemed the highest ornaments of our nature, seem to be emanations from the Divinity himself; and may be traced in many of the humblest and least regarded of his creatures.

ALEXANDER WILSON.

*Philadelphia, September 12th, 1811.*

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# AMERICAN ORNITHOLOGY.

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## YELLOW-BILLED CUCKOO.

### *CUCULUS CAROLINENSIS.*

[Plate XXVIII.—Fig. 1.]

*Cuculus Americanus*, LINN. *Syst.* 170.—CATESB. I, 9.—LATH. I, 537.—*Le Coucou de la Caroline*, BRISS. IV, 112.—*Arct. Zool.* 265, No. 155.—PEALE'S *Museum*, No. 1778.

A STRANGER who visits the United States for the purpose of examining their natural productions, and passes through our woods in the month of May or June, will sometimes hear, as he traverses the borders of deep retired, high timbered hollows, an uncouth guttural sound or note, resembling the syllables *kowe, kowe, kowe kowe kowe*, beginning slowly, but ending so rapidly that the notes seem to run into each other; and *vice versa*; he will hear this frequently without being able to discover the bird or animal from which it proceeds, as it is both shy and solitary, seeking always the thickest foliage for concealment. This is the Yellow-billed Cuckoo, the subject of the present account. From the imitative sound of its note, it is known in many parts by the name of the *Cow-bird*; it is also called in Virginia the *Rain Crow*, being observed to be most clamorous immediately before rain.

This species arrives in Pennsylvania from the south about the twenty-second of April, and spreads over the country as far at least as lake Ontario; is numerous in the Chickasaw and Chactaw nations; and also breeds in the upper parts of Georgia; preferring in all these places the borders of solitary swamps, and apple or-

chards. It leaves us, on its return southward, about the middle of September.

The singular, I will not say unnatural, conduct of the European Cuckoo (*Cuculus canorus*) which never constructs a nest for itself; but drops its eggs in those of other birds, and abandons them to their mercy and management, is so universally known, and so proverbial, that the whole tribe of Cuckoos have, by some inconsiderate people, been stigmatized as destitute of all parental care and affection. Without attempting to account for this remarkable habit of the European species, far less to consider as an error what the wisdom of Heaven has imposed as a duty on the species, I will only remark, that the bird now before us builds its own nest, hatches its own eggs, and rears its own young; and in conjugal and parental affection seems no ways behind any of its neighbours of the grove.

Early in May they begin to pair, when obstinate battles take place among the males. About the tenth of that month they commence building. The nest is usually fixed among the horizontal branches of an apple tree; sometimes in a solitary thorn, crab or cedar, in some retired part of the woods. It is constructed, with little art and scarcely any concavity, of small sticks and twigs, intermixed with green weeds, and blossoms of the common maple. On this almost flat bed, the eggs, usually three or four in number, are placed; these are of a uniform greenish blue color, and of a size proportionable to that of the bird. While the female is sitting the male is generally not far distant, and gives the alarm by his notes, when any person is approaching. The female sits so close that you may almost reach her with your hand, and then precipitates herself to the ground, feigning lameness to draw you away from the spot, fluttering, trailing her wings, and tumbling over, in the manner of the Partridge, Woodcock, and many other species. Both parents unite in providing food for the young. This consists for the most part of caterpillars, particularly such as infest apple trees. The same insects constitute the chief part of their own sus-



tenance. They are accused, and with some justice, of sucking the eggs of other birds, like the Crow, the Blue Jay, and other pillagers. They also occasionally eat various kinds of berries. But from the circumstance of destroying such numbers of very noxious larvæ, they prove themselves the friends of the farmer, and are highly deserving of his protection.

The Yellow-billed Cuckoo is thirteen inches long, and sixteen inches in extent; the whole upper parts are of a dark glossy drab, or what is usually called a Quaker color, with greenish silky reflections; from this must however be excepted the inner vanes of the wings, which are bright reddish cinnamon; the tail is long, composed of ten feathers, the two middle ones being of the same color as the back, the others, which gradually shorten to the exterior ones, are black, largely tipped with white; the two outer ones are scarcely half the length of the middle ones. The whole lower parts are pure white; the feathers covering the thighs being large, like those of the Hawk tribe; the legs and feet are light blue, the toes placed two before and two behind as in the rest of the genus. The bill is long, a little bent, very broad at the base, dusky black above and yellow below; the eye hazel, feathered close to the eyelid, which is yellow. The female differs little from the male; the four middle tail-feathers in her are of the same uniform drab; and the white, with which the others are tipped, not so pure as in the male.

In examining this bird by dissection the inner membrane of the gizzard, which in many other species is so hard and muscular, in this is extremely lax and soft, capable of great distension; and, what is remarkable, is covered with a growth of fine down or hair, of a light fawn color. It is difficult to ascertain the particular purpose which nature intends by this excrescence; perhaps it may serve to shield the tender parts from the irritating effects produced by the hairs of certain caterpillars, some of which are said to be almost equal to the sting of a nettle.

## BLACK-BILLED CUCKOO.

*CUCULUS ERYTHROPTALMA.*

[Plate XXVIII.—Fig. 2.]

PEALE'S *Museum*, No. 1854.

THIS Cuckoo is nearly as numerous as the former; but has hitherto escaped the notice of European naturalists; or from its general resemblance has been confounded with the preceding. Its particular markings, however, and some of its habits, sufficiently characterize it as a distinct species. Its general color above is nearly that of the former, inclining more to a pale ash on the cheeks and front; it is about an inch less in length; the tail is of a uniform dark silky drab, except at the tip, where each feather is marked with a spot of white bordered above with a slight touch of dull black; the bill is wholly black, and much smaller than that of the preceding; and it wants the bright cinnamon on the wings. But what constitutes its most distinguishing trait is a bare wrinkled skin, of a deep red color, that surrounds the eye. The female differs little in external appearance from the male.

The Black-billed Cuckoo is particularly fond of the sides of creeks, feeding on small shell fish, snails, &c. I have also often found broken pieces of oyster shells in its gizzard, which, like that of the other, is covered with fine downy hair.

The nest of this bird is most commonly built in a cedar, much in the same manner and of nearly the same materials as that of the other; but the eggs are smaller, usually four or five in number, and of a rather deeper greenish blue.

This bird is likewise found in the state of Georgia, and has not escaped the notice of Mr. Abbot, who is satisfied of its being a distinct species from the preceding.

## BLUE YELLOW-BACK WARBLER.

*SYLVIA PUSILLA.*

[Plate XXVIII.—Fig. 3.]

*Parus Americanus*, LINN. *Syst.* 341.—*Finch Creeper*, CATESB. I, 64.—LATHAM, II, 558.  
 —*Creeping Titmouse*, *Arct. Zool.* 423, No. 326.—*Parus varius*, *Various colored little Finch Creeper*, BARTRAM, p. 292.—PEALE'S *Museum*, No. 6910.

NOTWITHSTANDING the respectability of the above authorities, I must continue to consider this bird as a species of Warbler. Its habits indeed partake something of the Titmouse; but the form of its bill is decisively that of the *Sylvia* genus. It is remarkable for frequenting the tops of the tallest trees, where it feeds on the small winged insects and caterpillars that infest the young leaves and blossoms. It has a few feeble chirruping notes, scarcely loud enough to be heard at the foot of the tree. It visits Pennsylvania from the south, early in May; is very abundant in the woods of Kentucky; and is also found in the northern parts of the state of New York. Its nest I have never yet met with.

This little species is four inches and a half long, and six inches and a half in breadth; the front, and between the bill and eyes, is black; the upper part of the head and neck a fine Prussian blue; upper part of the back brownish yellow, lower and rump pale blue; wings and tail black, the former crossed with two bars of white, and edged with blue; the latter marked on the inner webs of the three exterior feathers with white, a circumstance common to a great number of the genus; immediately above and below the eye is a small touch of white; the upper mandible is black, the lower, as well as the whole throat and breast, rich yellow, deepening about its middle to orange red, and marked on the throat with a small

crescent of black; on the edge of the breast is a slight touch of rufous; belly and vent white; legs dark brown; feet dirty yellow. The female wants both the black and orange on the throat and breast; the blue on the upper parts is also of a duller tint.

## YELLOW RED-POLL WARBLER.

*SYLVIA PETECHIA.*

[Plate XXVIII.—Fig. 4.]

*Red-headed Warbler*, TURTON, I, 605.—PEALE'S *Museum*, No. 7124.

THIS delicate little bird arrives in Pennsylvania early in April, while the maples are yet in blossom, among the branches of which it may generally be found at that season, feeding on the stamina of the flowers, and on small winged insects. Low swampy thickets are its favorite places of resort. It is not numerous, and its notes are undeserving the name of song. It remains with us all summer; but its nest has hitherto escaped me. It leaves us late in September. Some of them probably winter in Georgia, having myself shot several late in February on the borders of the Savannah river.

Length of the Yellow Red-poll five inches, extent eight; line over the eye and whole lower parts rich yellow; breast streaked with dull red; upper part of the head reddish chesnut, which it loses in winter; back yellow olive, streaked with dusky; rump and tail coverts greenish yellow; wings deep blackish brown, exteriorly edged with olive; tail slightly forked, and of the same color as the wings.

The female wants the red cap; and the yellow of the lower parts is less brilliant; the streaks of red on the breast are also fewer and less distinct,



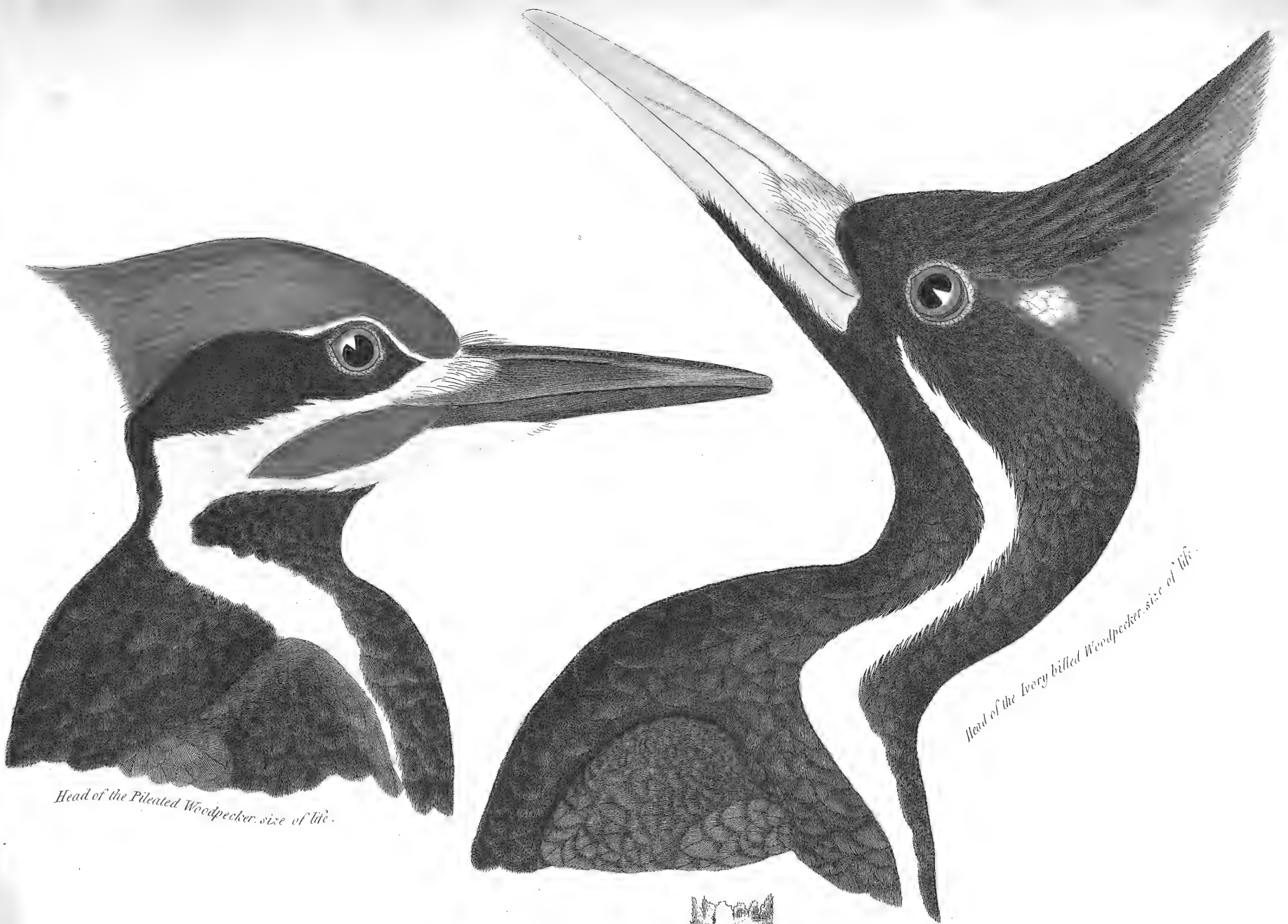
## IVORY-BILLED WOODPECKER.

*PICUS PRINCIPALIS.*

[Plate XXIX.—Fig. 1.]

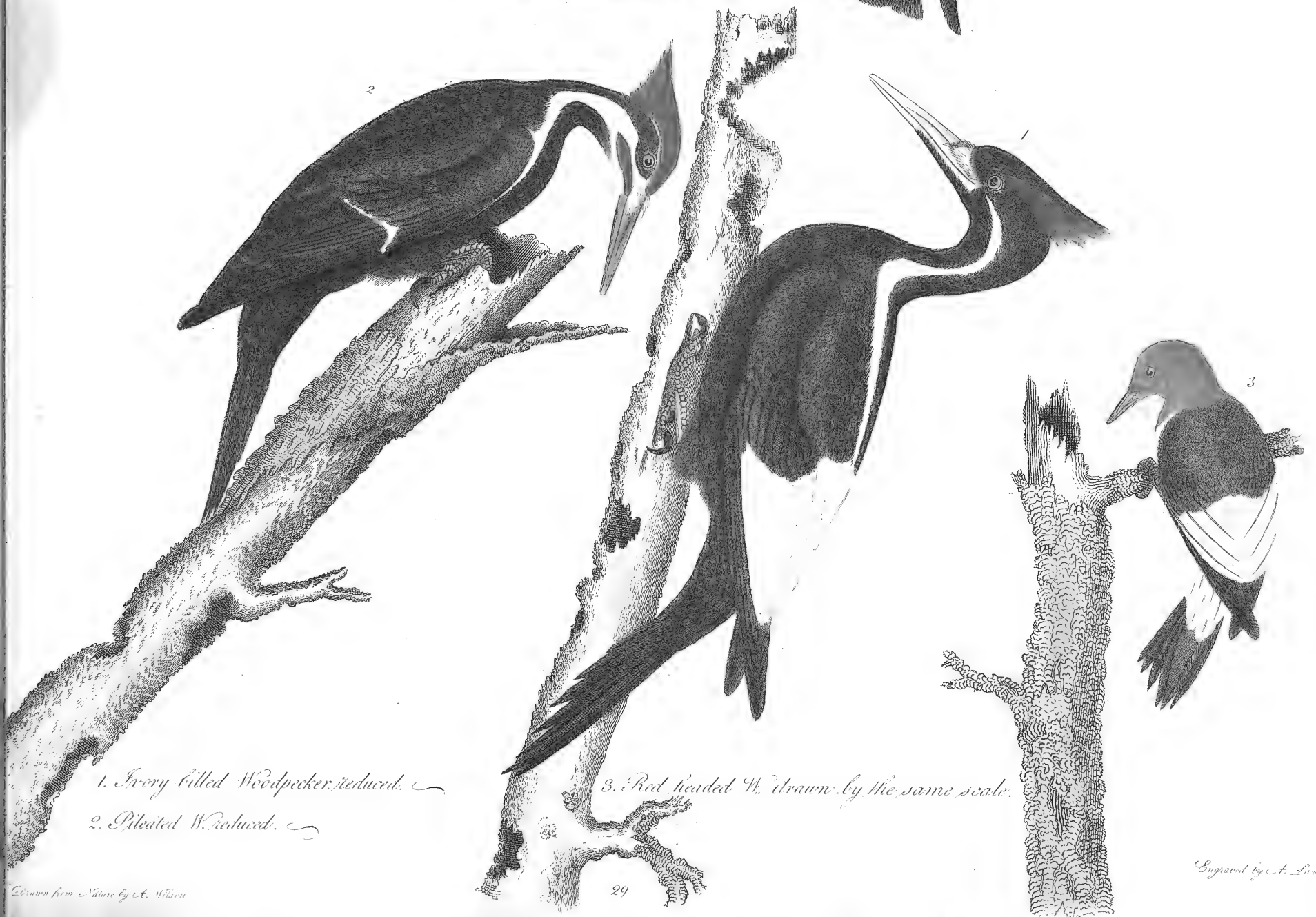
*Picus principalis*, LINN. *Syst.* I, p. 173. 2.—GMEL. *Syst.* I, p. 425.—*Picus niger Carolinensis*, BRISS. IV, p. 26. 9. *Id.* 8vo. II, p. 49.—*Pic noir à bec blanc*, BUFF. VII, p. 46.—*Pl. enl.* 690.—*King of the Woodpeckers*, KALM, vol. II, p. 85.—*White-billed Woodpecker*. CATESB. *Car.* I, 6. 16.—*Arct. Zool.* II, No. 156.—LATH. *Syn.* II, p. 553.—BARTRAM, p. 289.—PEALE'S *Museum*, No. 1884.

THIS majestic and formidable species in strength and magnitude stands at the head of the whole class of Woodpeckers hitherto discovered. He may be called the king or chief of his tribe; and nature seems to have designed him a distinguished characteristic in the superb carmine crest and bill of polished ivory with which she has ornamented him. His eye is brilliant and daring; and his whole frame so admirably adapted for his mode of life, and method of procuring subsistence, as to impress on the mind of the examiner the most reverential ideas of the Creator. His manners have also a dignity in them superior to the common herd of Woodpeckers. Trees, shrubbery, orchards, rails, fence posts, and old prostrate logs, are alike interesting to those, in their humble and indefatigable search for prey; but the royal hunter now before us, scorns the humility of such situations, and seeks the most towering trees of the forest; seeming particularly attached to those prodigious cypress swamps whose crowded giant sons stretch their bare and blasted or moss-hung arms midway to the skies. In these almost inaccessible recesses, amid ruinous piles of impending timber, his trumpet-like note and loud strokes resound through the solitary savage wilds, of which he seems the sole lord and inhabitant.



*Head of the Pileated Woodpecker, size of life.*

*Head of the Ivory-billed Woodpecker, size of life.*



*1. Ivory-billed Woodpecker, reduced.*

*2. Pileated W. reduced.*

*3. Red-headed W. drawn by the same scale.*



Wherever he frequents he leaves numerous monuments of his industry behind him. We there see enormous pine trees with cart-loads of bark lying around their roots, and chips of the trunk itself in such quantities as to suggest the idea that half a dozen of axemen had been at work there for the whole morning. The body of the tree is also disfigured with such numerous and so large excavations, that one can hardly conceive it possible for the whole to be the work of a Woodpecker. With such strength, and an apparatus so powerful, what havoc might he not commit, if numerous, on the most useful of our forest trees; and yet with all these appearances, and much of vulgar prejudice against him, it may fairly be questioned whether he is at all injurious; or, at least, whether his exertions do not contribute most powerfully to the protection of our timber. Examine closely the tree where he has been at work, and you will soon perceive, that it is neither from motives of mischief nor amusement that he slices off the bark, or digs his way into the trunk.—For the sound and healthy tree is not the least object of his attention. The diseased, infested with insects, and hastening to putrefaction, are *his* favorites; there the deadly crawling enemy have formed a lodgement, between the bark and tender wood, to drink up the very vital part of the tree. It is the ravages of these vermin which the intelligent proprietor of the forest deplores, as the sole perpetrators of the destruction of his timber. Would it be believed that the larvæ of an insect, or fly, no larger than a grain of rice, should silently, and in one season, destroy some thousand acres of pine trees, many of them from two to three feet in diameter, and a hundred and fifty feet high! Yet whoever passes along the high road from Georgetown to Charleston, in South Carolina, about twenty miles from the former place, can have striking and melancholy proofs of this fact. In some places the whole woods, as far as you can see around you, are dead, stripped of the bark, their wintry-looking arms and bare trunks bleaching in the sun, and tumbling in ruins before every blast, presenting a frightful pic-

ture of desolation. And yet ignorance and prejudice stubbornly persist in directing their indignation against the bird now before us, the constant and mortal enemy of these very vermin, as if the hand that probed the wound to extract its cause, should be equally detested with that which inflicted it; or as if the thief-catcher should be confounded with the thief. Until some effectual preventive or more complete mode of destruction can be devised against these insects, and their larvæ, I would humbly suggest the propriety of protecting, and receiving with proper feelings of gratitude, the services of this and the whole tribe of Woodpeckers, letting the odium of guilt fall to its proper owners.

In looking over the accounts given of the Ivory-billed Woodpecker by the naturalists of Europe, I find it asserted, that it inhabits from New Jersey to Mexico. I believe, however, that few of them are ever seen to the north of Virginia, and very few of them even in that state. The first place I observed this bird at, when on my way to the south, was about twelve miles north of Wilmington in North Carolina. There I found the bird from which the drawing of the figure in the plate was taken. This bird was only wounded slightly in the wing, and on being caught, uttered a loudly reiterated, and most piteous note, exactly resembling the violent crying of a young child; which terrified my horse so, as nearly to have cost me my life. It was distressing to hear it. I carried it with me in the chair, under cover, to Wilmington. In passing through the streets its affecting cries surprised every one within hearing, particularly the females, who hurried to the doors and windows with looks of alarm and anxiety. I drove on, and on arriving at the piazza of the hotel, where I intended to put up, the landlord came forward, and a number of other persons who happened to be there, all equally alarmed at what they heard; this was greatly increased by my asking whether he could furnish me with accommodations for myself and my baby. The man looked blank, and foolish, while the others stared with still greater astonishment.



After diverting myself for a minute or two at their expense, I drew my Woodpecker from under the cover and a general laugh took place. I took him up stairs and locked him up in my room, while I went to see my horse taken care of. In less than an hour I returned, and on opening the door he set up the same distressing shout, which now appeared to proceed from grief that he had been discovered in his attempts at escape. He had mounted along the side of the window, nearly as high as the ceiling, a little below which he had begun to break through. The bed was covered with large pieces of plaster; the lath was exposed for at least fifteen inches square, and a hole, large enough to admit the fist, opened to the weather-boards; so that in less than another hour he would certainly have succeeded in making his way through. I now tied a string round his leg, and fastening it to the table, again left him. I wished to preserve his life, and had gone off in search of suitable food for him. As I reascended the stairs, I heard him again hard at work, and on entering had the mortification to perceive that he had almost entirely ruined the mahogany table to which he was fastened, and on which he had wreaked his whole vengeance. While engaged in taking the drawing, he cut me severely in several places, and on the whole, displayed such a noble and unconquerable spirit that I was frequently tempted to restore him to his native woods. He lived with me nearly three days, but refused all sustenance, and I witnessed his death with regret.

The head and bill of this bird is in great esteem among the southern Indians, who wear them by way of amulet or charm, as well as ornament; and it is said, dispose of them to the northern tribes at considerable prices. An Indian believes that the head, skin, or even feathers of certain birds confer on the wearer all the virtues or excellencies of those birds. Thus I have seen a coat made of the skins, heads and claws of the raven; caps stuck round with heads of Butcher-birds, Hawks and Eagles; and as the disposition and courage of the Ivory-billed Woodpecker are well known to the

savages, no wonder they should attach great value to it, having both beauty, and, in their estimation, distinguished merit to recommend it.

This bird is not migratory, but resident in the countries where it inhabits. In the low countries of the Carolinas it usually prefers the large-timbered cypress swamps for breeding in. In the trunk of one of these trees, at a considerable height, the male and female alternately, and in conjunction, dig out a large and capacious cavity for their eggs and young. Trees thus dug out have frequently been cut down, with sometimes the eggs and young in them. This hole according to information, for I have never seen one myself, is generally a little winding, the better to keep out the weather, and from two to five feet deep. The eggs are said to be generally four, sometimes five, as large as a pullet's, pure white, and equally thick at both ends; a description that, except in size, very nearly agrees with all the rest of our Woodpeckers. The young begin to be seen abroad about the middle of June. Whether they breed more than once in the same season is uncertain.

So little attention do the people of the countries where these birds inhabit, pay to the minutia of natural history, that, generally speaking, they make no distinction between the Ivory-billed and Pileated Woodpecker, represented in the same plate; and it was not till I shewed them the two birds together, that they knew of any difference. The more intelligent and observing part of the natives, however, distinguish them by the name of the large and lesser *Log-cocks*. They seldom examine them but at a distance, gunpowder being considered too precious to be thrown away on Woodpeckers; nothing less than a Turkey being thought worth the value of a load.

The food of this bird consists, I believe, entirely of insects and their larvæ. The Pileated Woodpecker is suspected of sometimes tasting the Indian corn; the Ivory-billed never. His common note, repeated every three or four seconds, very much resem-

bles the tone of a trumpet, or the high note of a clarinet, and can plainly be distinguished at the distance of more than half a mile; seeming to be immediately at hand, tho perhaps more than one hundred yards off. This it utters while mounting along the trunk or digging into it. At these times it has a stately and novel appearance; and the note instantly attracts the notice of a stranger. Along the borders of the Savannah river, between Savannah and Augusta, I found them very frequently; but my horse no sooner heard their trumpet-like note, than remembering his former alarm, he became almost ungovernable.

The Ivory-billed Woodpecker is twenty inches long and thirty inches in extent; the general color is black, with a considerable gloss of green when exposed to a good light; iris of the eye vivid yellow; nostrils covered with recumbent white hairs; fore part of the head black, rest of the crest of a most splendid red, spotted at the bottom with white, which is only seen when the crest is erected as represented in the plate; this long red plumage being ash-colored at its base, above that white, and ending in brilliant red; a stripe of white proceeds from a point, about half an inch below each eye, passes down each side of the neck, and along the back, where they are about an inch apart, nearly to the rump; the first five primaries are wholly black; on the next five the white spreads from the tip higher and higher to the secondaries, which are wholly white from their coverts downwards. These markings, when the wings are shut, make the bird appear as if his back were white, hence he has been called by some of our naturalists the large White-backed Woodpecker; the neck is long; the beak an inch broad at the base, of the color and consistence of ivory, prodigiously strong and elegantly fluted. The tail is black, tapering from the two exterior feathers, which are three inches shorter than the middle ones, and each feather has the singularity of being greatly concave below; the wing is lined with yellowish white; the legs are about an inch and a quarter long, the exterior toe about the same length,

the claws exactly semicircular and remarkably powerful, the whole of a light blue or lead color. The female is about half an inch shorter, the bill rather less, and the whole plumage of the head black glossed with green; in the other parts of the plumage she exactly resembles the male. In the stomachs of three which I opened, I found large quantities of a species of worm called *borers*, two or three inches long, of a dirty cream color, with a black head; the stomach was an oblong pouch, not muscular like the gizzards of some others. The tongue was worm-shaped, and for half an inch at the tip as hard as horn, flat, pointed, of the same white color as the bill, and thickly barbed on each side.

## PILEATED WOODPECKER.

*PICUS PILEATUS.*

[Plate XXIX.—Fig. 1.]

*Picus niger, crista rubra*, LATH. *Ind. Orn.* I, p. 225. 4.—*Picus pileatus*, LINN. *Syst.* I, p. 173. 3.—GMEL. *Syst.* I, p. 425.—*Picus Virginianus pileatus*, BRISS. IV, p. 29. 10.—*Id.* 8vo. II, p. 50.—*Pic noir à huppe rouge*, BUFF. VII, p. 48.—*Pic noir huppé de la Louisiane*, Pl. enl. 718.—*Larger crested Woodpecker*, CATESB. *Car.* I, 6. 17.—*Pileated Woodpecker*, *Arct. Zool.* II, No. 157.—LATH. *Syn.* II, p. 554. 3.—*Id.* *Sup.* p. 105.—BARTRAM, p. 289.—PEALE'S *Museum*, No. 1886.

THIS American species is the second in size among his tribe, and may be styled the Great Northern Chief of the Woodpeckers, tho, in fact, his range extends over the whole of the United States from the interior of Canada to the gulf of Mexico. He is very numerous in the Genesee country, and in all the tracts of high-timbered forests, particularly in the neighbourhood of our large rivers, where he is noted for making a loud and almost incessant cackling before wet weather; flying at such times in a restless uneasy manner from tree to tree, making the woods echo to his outcry. In Pennsylvania and the northern states he is called the Black Woodcock; in the southern states, the Log-cock. Almost every old trunk in the forest where he resides bears the marks of his chisel. Wherever he perceives a tree beginning to decay, he examines it round and round with great skill and dexterity, strips off the bark in sheets of five or six feet in length, to get at the hidden cause of the disease, and labors with a gaiety and activity really surprizing. I have seen him separate the greatest part of the bark from a large dead pine tree, for twenty or thirty feet, in less than a quarter of an hour. Whether engaged in flying from tree to tree, in digging,



climbing or barking, he seems perpetually in a hurry. He is extremely hard to kill, clinging close to the tree even after he has received his mortal wound; nor yielding up his hold but with his expiring breath. If slightly wounded in the wing, and dropt while flying, he instantly makes for the nearest tree, and strikes with great bitterness at the hand stretched out to seize him; and can rarely be reconciled to confinement. He is sometimes observed among the hills of Indian corn, and it is said by some that he frequently feeds on it. Complaints of this kind are, however, not general; many farmers doubting the fact, and conceiving that at these times he is in search of insects which lie concealed in the husk. I will not be positive that they never occasionally taste maize; yet I have opened and examined great numbers of these birds, killed in various parts of the United States, from lake Ontario to the Alatomaha river, but never found a grain of Indian corn in their stomachs.

The Pileated Woodpecker is not migratory, but braves the extremes of both the arctic and torrid regions. Neither is he gregarious, for it is rare to see more than one or two, or at the most three in company. Formerly they were numerous in the neighbourhood of Philadelphia; but gradually as the old timber fell and the country became better cleared, they retreated to the forest. At present few of those birds are to be found within ten or fifteen miles of the city.

Their nest is built, or rather the eggs are deposited, in the hole of a tree, dug out by themselves, no other materials being used but the soft chips of rotten wood. The female lays six large eggs of a snowy whiteness; and, it is said, they generally raise two brood in the same season.

This species is eighteen inches long, and twenty-eight in extent; the general color is a dusky brownish black; the head is ornamented with a conical cap of bright scarlet; two scarlet mustaches proceed from the lower mandible; the chin is white; the

nostrils are covered with brownish white hair-like feathers, and this stripe of white passes from thence down the side of the neck to the sides, spreading under the wings; the upper half of the wings are white, but concealed by the black coverts; the lower extremities of the wings are black; so that the white on the wing is not seen but when the bird is flying, at which time it is very prominent; the tail is tapering, the feathers being very convex above and strong; the legs are of a leaden grey color, very short, scarcely half an inch, the toes very long, the claws strong and semicircular and of a pale blue; the bill is fluted, sharply ridged, very broad at the base, bluish black above, below and at the point bluish white; the eye is of a bright golden color, the pupil black; the tongue, like those of its tribe, is worm-shaped, except near the tip where for one-eighth of an inch it is horny, pointed, and beset with barbs.

The female has the forehead and nearly to the crown of a light brown color, and the mustaches are dusky instead of red. In both a fine line of white separates the red crest from the dusky line that passes over the eye.

## RED-WINGED STARLING.

*STURNUS PREDATORIUS.*[Plate XXX.—Fig. 1, *Male*.—Fig. 2, *Female*.]

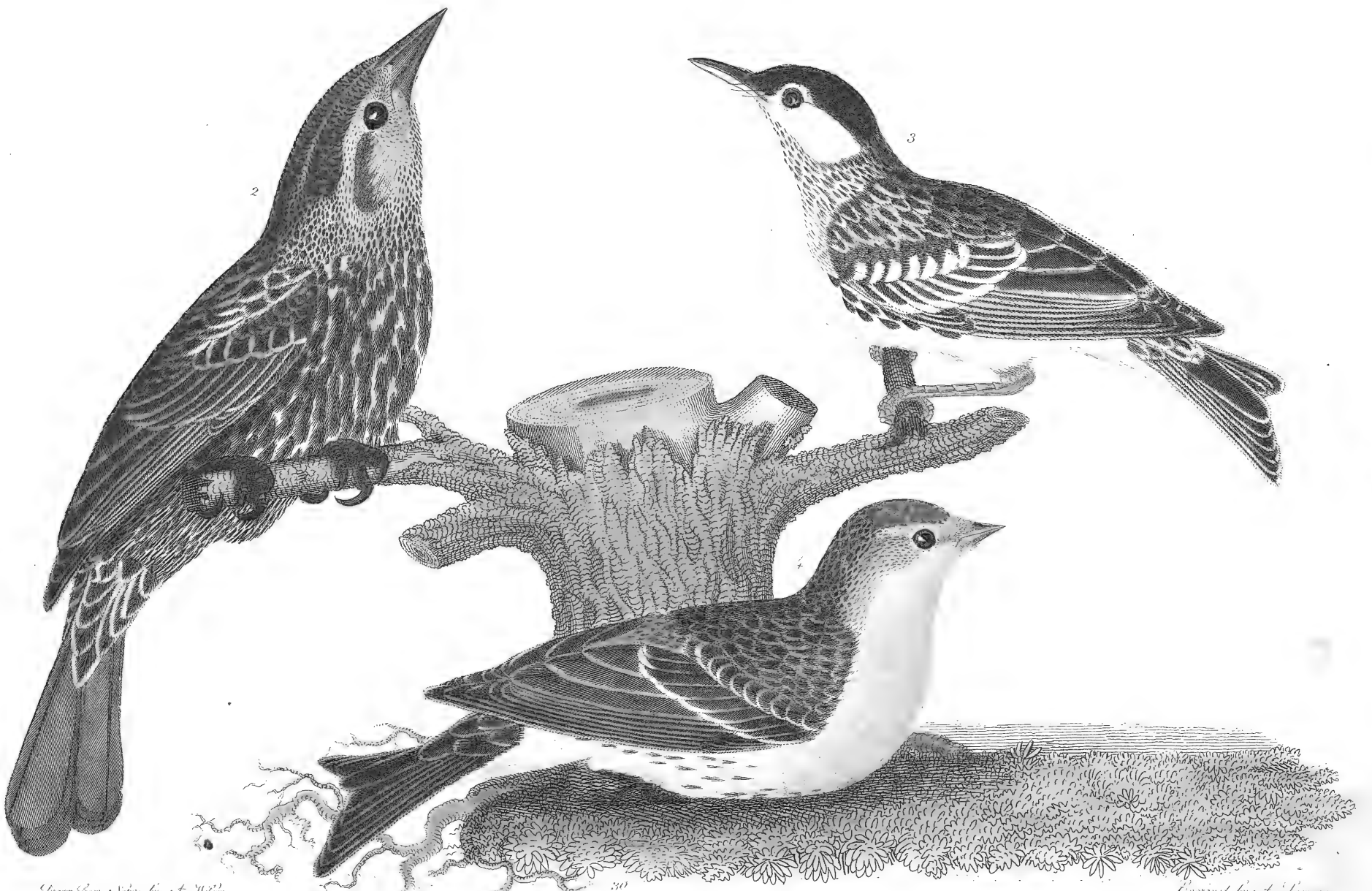
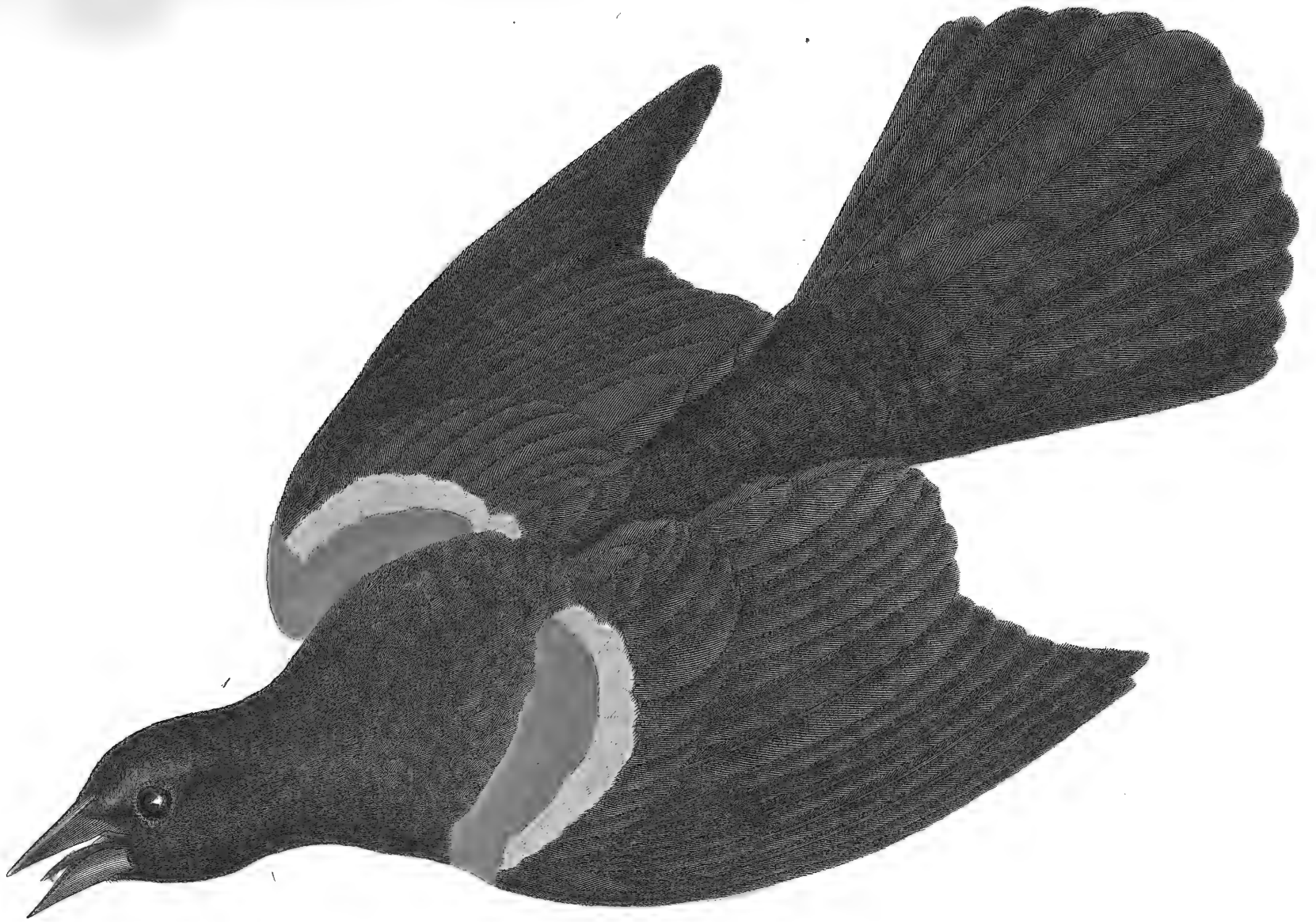
BARTRAM, 291.—*Oriolus Phœniceus*, LINN. *Syst.* 161.—*Red-winged Oriole*, *Arct. Zool.* 255, No. 140.—*Le Troupiale a aisles rouges*, BRISS. II, 97.—*Le Commandeur*, BUFF. III, 214. *Pl. enl.* 402.—LATH. I, 428.—*Acolchichi*, FERNAND. *Nov. Hisp.* p. 14.—PEALE'S *Museum*, No. 1466, 1467.

THIS notorious and celebrated *corn-thief*, the long reputed plunderer and pest of our honest and laborious farmers, now presents himself before us, with his copartner in iniquity, to receive the character due for their very active and distinguished services. In investigating the nature of these I shall endeavour to render strict historical justice to this noted pair; adhering to the honest injunctions of the poet,

“ Nothing extenuate,  
“ Nor set down aught in malice.”

Let the reader divest himself equally of prejudice, and we shall be at no loss to ascertain accurately their true character.

The Red-winged Starlings, though generally migratory in the states north of Maryland, are found during winter in immense flocks, sometimes associated with the Purple Grakles, and often by themselves, along the whole lower parts of Virginia, both Carolinas, Georgia and Louisiana, particularly near the sea coast, and in the vicinity of large rice and corn fields. In the months of January and February, while passing through the former of these countries, I was frequently entertained with the aerial evolutions of



Drawn from Nature by A. Wilson

Engraved by A. Lawson

1. Red-winged Starling. 2. Female. 3. Black-poll Warbler. 4. Lesser Red-poll.





those great bodies of Starlings. Sometimes they appeared driving about like an enormous black cloud carried before the wind, varying its shape every moment. Sometimes suddenly rising from the fields around me with a noise like thunder; while the glittering of innumerable wings of the brightest vermilion amid the black cloud they formed, produced on these occasions a very striking and splendid effect. Then descending like a torrent, and covering the branches of some detached grove, or clump of trees, the whole congregated multitude commenced one general concert or chorus, that I have plainly distinguished at the distance of more than two miles, and when listened to at the intermediate space of about a quarter of a mile, with a slight breeze of wind to swell and soften the flow of its cadences, was to me grand and even sublime. The whole season of winter that with most birds is past in struggling to sustain life, in silent melancholy, is with the Red-wings one continued carnival. The profuse gleanings of the old rice, corn and buckwheat fields, supply them with abundant food; at once, ready and nutritious; and the intermediate time is spent either in aerial manoeuvres, or in grand vocal performances, as if solicitous to supply the absence of all the tuneful summer tribes, and to cheer the dejected face of nature with their whole combined powers of harmony.

About the twentieth of March, or earlier if the season be open, they begin to enter Pennsylvania in numerous tho small parties. These migrating flocks are usually observed from day-break to eight or nine in the morning, passing to the north, chattering to each other as they fly along; and, in spite of all our antipathy, their well known notes and appearance, after the long and dreary solitude of winter, inspire cheerful and pleasing ideas of returning spring, warmth and verdure. Selecting their old haunts, every meadow is soon enlivened by their presence. They continue in small parties to frequent the low borders of creeks, swamps and ponds, till about the middle of April, when they separate in pairs

to breed; and about the last week in April or first in May begin to construct their nest. The place chosen for this is generally within the precincts of a marsh or swamp, meadow or other like watery situation. The spot usually a thicket of alder bushes, at the height of six or seven feet from the ground; sometimes in a detached bush in a meadow of high grass; often in a tussock of rushes or coarse rank grass; and not unfrequently in the ground. In all of which situations I have repeatedly found them. When in a bush they are generally composed outwardly of wet rushes picked from the swamp, and long tough grass in large quantity, and well lined with very fine bent. The rushes, forming the exterior, are generally extended to several of the adjoining twigs, round which they are repeatedly and securely twisted; a precaution absolutely necessary for its preservation, on account of the flexible nature of the bushes in which it is placed. The same caution is observed when a tussock is chosen, by fastening the tops together, and intertwinning the materials of which the nest is formed with the stalks of rushes around. When placed in the ground, less care and fewer materials being necessary, the nest is much simpler and slighter than before. The female lays five eggs, of a very pale light blue, marked with faint tinges of light purple and long straggling lines and dashes of black. It is not uncommon to find several nests in the same thicket, within a few feet of each other.

During the time the female is sitting, and still more particularly after the young are hatched, the male, like most other birds that build in low situations, exhibits the most violent symptoms of apprehension and alarm on the approach of any person to its near neighbourhood. Like the Lapwing of Europe he flies to meet the intruder, hovers at a short height over head, uttering loud notes of distress; and while in this situation displays to great advantage the rich glowing scarlet of his wings, heightened by the jetty black of his general plumage. As the danger increases his cries become more shrill and incessant, and his motions rapid and restless; the

whole meadow is alarmed, and a collected crowd of his fellows hover around, and mingle their notes of alarm and agitation with his. When the young are taken away, or destroyed, he continues for several days near the place, restless and dejected, and generally recommences building soon after, in the same meadow. Towards the beginning or middle of August the young birds begin to fly in flocks, and at that age nearly resemble the female, with the exception of some reddish or orange, that marks the shoulders of the males, and which increases in space and brilliancy as winter approaches. It has been frequently remarked that at this time the young birds chiefly associate by themselves, there being sometimes not more than two or three old males observed in a flock of many thousands. These, from the superior blackness and rich red of their plumage, are very conspicuous.

Before the beginning of September these flocks have become numerous and formidable, and the young ears of maize, or Indian corn, being then in their soft, succulent, milky state, present a temptation that cannot be resisted. Reinforced by numerous and daily flocks from all parts of the interior, they pour down on the low countries in prodigious multitudes. Here they are seen, like vast clouds wheeling and driving over the meadows and devoted corn fields, darkening the air with their numbers. Then commences the work of destruction on the corn, the husks of which, tho composed of numerous envelopements of closely wrapt leaves, are soon completely or partially torn off; while from all quarters myriads continue to pour down like a tempest, blackening half an acre at a time; and, if not disturbed, repeat their depredations till little remains but the cob and the shrivelled skins of the grain, what little is left of the tender ear being exposed to the rains and weather is generally much injured. All the attacks and havock made at this time among them with the gun, and by the Hawks, several species of which are their constant attendants, has little effect on the remainder. When the Hawks make a sweep among

them they suddenly open on all sides, but rarely in time to disappoint them of their victims; and though repeatedly fired at, with mortal effect, they only remove from one field to an adjoining one, or to another quarter of the same inclosure. From dawn to nearly sun set this open and daring devastation is carried on, under the eye of the proprietor; and a farmer who has any considerable extent of corn would require half a dozen men at least with guns to guard it; and even then, all their vigilance and activity would not prevent a good tithe of it from becoming the prey of the Blackbirds. The Indians, who usually plant their corn in one general field, keep the whole young boys of the village all day patrolling round and among it; and each being furnished with bow and arrows, with which they are very expert, they generally contrive to destroy great numbers of them.

It must however be observed, that this scene of pillage is principally carried on in the low countries, not far from the sea-coast, or near the extensive flats that border our large rivers; and is also chiefly confined to the months of August and September. After this period the corn having acquired its hard shelly coat, and the seeds of the reeds or wild oats, with a profusion of other plants that abound along the river shores, being now ripe, and in great abundance, present a new and more extensive field for these marauding multitudes. The reeds also supply them with convenient roosting places, being often in almost unapproachable morasses; and thither they repair every evening from all quarters of the country. In some places, however, when the reeds become dry, advantage is taken of this circumstance to destroy these birds by a party secretly approaching the place under cover of a dark night, setting fire to the reeds in several places at once, which being soon enveloped in one general flame the uproar among the Blackbirds becomes universal, and by the light of the conflagration they are shot down in vast numbers while hovering and screaming over the place. Sometimes straw is used for the same purpose, being pre-

viously strewed near the reeds and alder bushes where they are known to roost, which being instantly set on fire, the consternation and havock is prodigious; and the party return by day to pick up the slaughtered game. About the first of November, they begin to move off towards the south; tho near the sea coast, in the states of New Jersey and Delaware, they continue long after that period.

Such are the general manners and character of the *Red-winged Starling*; but there remain some facts to be mentioned, no less authentic, and well deserving the consideration of its enemies, more especially of those whose detestation of this species would stop at nothing short of total extirpation.

It has been already stated that they arrive in Pennsylvania late in March. Their general food at this season, as well as during the early part of summer, (for the Crows and Purple Grakles are the principal pests in planting time) consists of grub-worms, caterpillars, and various other larvæ, the silent but deadly enemies of all vegetation, and whose secret and insidious attacks are more to be dreaded by the husbandman than the combined forces of the whole feathered tribes together. For these vermin the Starlings search with great diligence; in the ground, at the roots of plants, in orchards, and meadows, as well as among buds, leaves and blossoms; and from their known voracity the multitudes of these insects which they destroy must be immense. Let me illustrate this by a short computation. If we suppose each bird, on an average, to devour fifty of these larvæ in a day (a very moderate allowance) a single pair in four months, the usual time such food is sought after, will consume upwards of twelve thousand. It is believed, that not less than a million pair of these birds are distributed over the whole extent of the United States in summer; whose food being nearly the same, would swell the amount of vermin destroyed to twelve thousand millions. But the number of young birds may be fairly estimated at double that of their parents, and as these are constantly fed on larvæ for at least three weeks, making only the same allow-

ance for them as for the old ones, their share would amount to four thousand two hundred millions; making a grand total of sixteen thousand two hundred million of noxious insects destroyed in the space of four months by this single species! The combined ravages of such a hideous host of vermin would be sufficient to spread famine and desolation over a wide extent of the richest and best cultivated country on earth. All this, it may be said, is mere supposition. It is however supposition founded on known and acknowledged facts. I have never dissected any of these birds in spring without receiving the most striking and satisfactory proofs of those facts; and tho in a matter of this kind it is impossible to ascertain precisely the amount of the benefits derived by agriculture from this and many other species of our birds; yet in the present case I cannot resist the belief, that the services of this species, in spring, are far more important and beneficial than the value of all that portion of corn which a careful and active farmer permits himself to lose by it.

The great range of country frequented by this bird extends from Mexico on the south, to Labrador. Our late enterprising travellers across the continent to the Pacific ocean observed it numerous in several of the vallies at a great distance up the Missouri. When taken alive, or reared from the nest, it soon becomes familiar, sings frequently, bristling out its feathers something in the manner of the Cow Bunting. These notes, tho not remarkably various, are very peculiar. The most common one resembles the syllables *conk-quer-rêe*; others the shrill sounds produced by filing a saw; some are more guttural; and others remarkably clear. The usual note of both male and female is a single *chuck*. Instances have been produced where they have been taught to articulate several words distinctly; and contrary to that of many birds the male loses little of the brilliancy of his plumage by confinement.

A very remarkable trait of this bird is the great difference of size between the male and female; the former being nearly



two inches longer than the latter, and of proportionate magnitude. They are known by various names in the different states of the union; such as the *Swamp Blackbird*, *Marsh Blackbird*, *Red-winged Blackbird*, *Corn* or *Maize thief*, *Starling*, &c. Many of them have been carried from this to different parts of Europe, and Edwards relates that one of them, which had no doubt escaped from a cage, was shot in the neighbourhood of London; and on being opened, its stomach was found to be filled with grub worms, caterpillars and beetles; which Buffon seems to wonder at, as “in their own country,” he observes, “they feed exclusively on grain and maize.”

Hitherto this species has been generally classed by naturalists with the Orioles. By a careful comparison, however, of its bill with those of that tribe, the similarity is by no means sufficient to justify this arrangement; and its manners are altogether different. I can find no genus to which it makes so near an approach, both in the structure of the bill and in food, flight and manners as those of the *Stare*, with which, following my judicious friend Mr. Bartram, I have accordingly placed it. To the European the perusal of the foregoing pages will be sufficient to satisfy him of their similarity of manners. For the satisfaction of those who are unacquainted with the common Starling of Europe, I shall select a few sketches of its character, from the latest and most accurate publication I have seen from that quarter.\* Speaking of the Stare or Starling, this writer observes, “In the winter season these birds fly in vast flocks, and may be known at a great distance by their whirling mode of flight, which Buffon compares to a sort of vortex, in which the collective body performs an uniform circular revolution, and at the same time continues to make a progressive advance. The evening is the time when the Stares assemble in the greatest numbers, and betake themselves to the fens and marshes, where they

\* Bewick's British Birds, part i, p. 119, Newcastle, 1809.

roost among the reeds: they chatter much in the evening and morning, both when they assemble and disperse. So attached are they to society that they not only join those of their own species, but also birds of a different kind; and are frequently seen in company with Red-wings, [a species of Thrush,] Fieldfares, and even with Crows, Jackdaws and Pigeons. Their principal food consists of worms, snails and caterpillars; they likewise eat various kinds of grain, seeds and berries." He adds, that "in a confined state they are very docile, and may easily be taught to repeat short phrases, or whistle tunes with great exactness."

The *Red-winged Starling*, fig. 1, is nine inches long, and fourteen inches in extent; the general color is a glossy black, with the exception of the whole lesser wing coverts, the first or lower row of which is of a reddish cream color, the rest a rich and splendid scarlet; legs and bill glossy brownish black; irides hazel; bill cylindrical above, compressed at the sides, straight, running considerably up the forehead, where it is prominent, rounding and flattish towards the tip, though sharp pointed; tongue nearly as long as the bill, tapering and lacerated at the end; tail rounded, the two middle feathers also somewhat shorter than those immediately adjoining.

The female, fig. 2, is seven inches and a quarter in length, and twelve inches in extent; chin a pale reddish cream; from the nostril over the eye, and from the lower mandible run two stripes of the same, speckled with black; from the posterior angle of the eye backwards a streak of brownish black covers the auriculars; throat and whole lower parts, thickly streaked with black and white, the latter inclining to cream on the breast; whole plumage above black, each feather bordered with pale brown, white or bay, giving the bird a very mottled appearance; lesser coverts the same; bill and legs as in the male.

The young birds at first greatly resemble the female; but have the plumage more broadly skirted with brown. The red

early shews itself on the lesser wing-coverts of the males, at first pale, inclining to orange, and partially disposed. The brown continues to skirt the black plumage for a year or two, so that it is rare to find an old male altogether destitute of some remains of it; but the red is generally complete in breadth and brilliancy by the succeeding spring. The females are entirely destitute of that ornament.

The flesh of these birds is but little esteemed, being in general black, dry and tough. Strings of them are however frequently seen exposed for sale in our markets.

## BLACK-POLL WARBLER.

*SYLVIA STRIATA.*

[Plate XXX.—Fig. 3.]

LATH. II, 460.—*Arct. Zool.* 401.—TURTON, 600.—PEALE'S *Museum*, No. 7054.

THIS species has considerable affinity to the Flycatchers in its habits. It is chiefly confined to the woods, and even there, to the tops of the tallest trees, where it is descried skipping from branch to branch in pursuit of winged insects. Its note is a single *screep*, scarcely audible from below. It arrives in Pennsylvania about the twentieth of April, and is first seen on the tops of the highest maples, darting about among the blossoms. As the woods thicken with leaves it may be found pretty generally, being none of the least numerous of our summer birds. It is however most partial to woods in the immediate neighbourhood of creeks, swamps or morasses, probably from the greater number of its favorite insects frequenting such places. It is also pretty generally diffused over the United States, having myself met with it in most quarters of the Union; tho its nest has hitherto defied all my researches.

This bird may be considered as occupying an intermediate station between the Flycatchers and the Warblers, having the manners of the former, and the bill, partially, of the latter. The nice gradations by which Nature passes from one species to another, even in this department of the great chain of beings, will forever baffle all the artificial rules and systems of man. And this truth every fresh discovery must impress more forcibly on the mind of the observing naturalist. These birds leave us early in September.

The Black-poll Warbler is five and a half inches long, and eight and a half in extent; crown and hind head black; cheeks

pure white; from each lower mandible runs a streak of small black spots, those on the side larger; the rest of the lower parts white; primaries black, edged with yellow; rest of the wing black, edged with ash; the first and second row of coverts broadly tipped with white; back ash, tinged with yellow-ochre, and streaked laterally with black; tail black, edged with ash, the three exterior feathers marked on the inner webs with white; bill black above, whitish below, furnished with bristles at the base; iris hazel; legs and feet reddish yellow.

The female differs very little in plumage from the male.

## LESSER RED-POLL.

*FRINGILLA LINARIA.*

[Plate XXX.—Fig. 4.]

LATH. II, 305.—*Arct. Zool.* 379.—*Le Sizeren*, BUFF. IV, 216. *Pl. enl.* 151, 2.—PEALE'S *Museum*, No. 6579.

THIS bird corresponds so exactly in size, figure and color of plumage with that of Europe, of the same name, as to place their identity beyond a doubt. They inhabit during summer the most northern parts of Canada and still more remote northern countries, from whence they migrate at the commencement of winter. They appear in the Genesee country with the first deep snow, and on that account are usually called by the title of Snow-birds. As the female is destitute of the crimson on the breast and forehead, and the young birds do not receive that ornament till the succeeding spring, such a small proportion of the individuals that form these flocks are marked with red, as to induce a general belief among the inhabitants of those parts that they are two different kinds associated together. Flocks of these birds have been occasionally seen in severe winters in the neighbourhood of Philadelphia. They seem particularly fond of the seeds of the common alder, and hang, head downwards, while feeding, in the manner of the Yellow-bird. They seem extremely unsuspicious at such times, and will allow a very near approach without betraying any symptoms of alarm.

The specimen represented in the plate was shot, with several others of both sexes, in Seneca county, between the Seneca and Cayuga lakes. Some individuals were occasionally heard to chant a few interrupted notes, but no satisfactory account can be given of their powers of song.



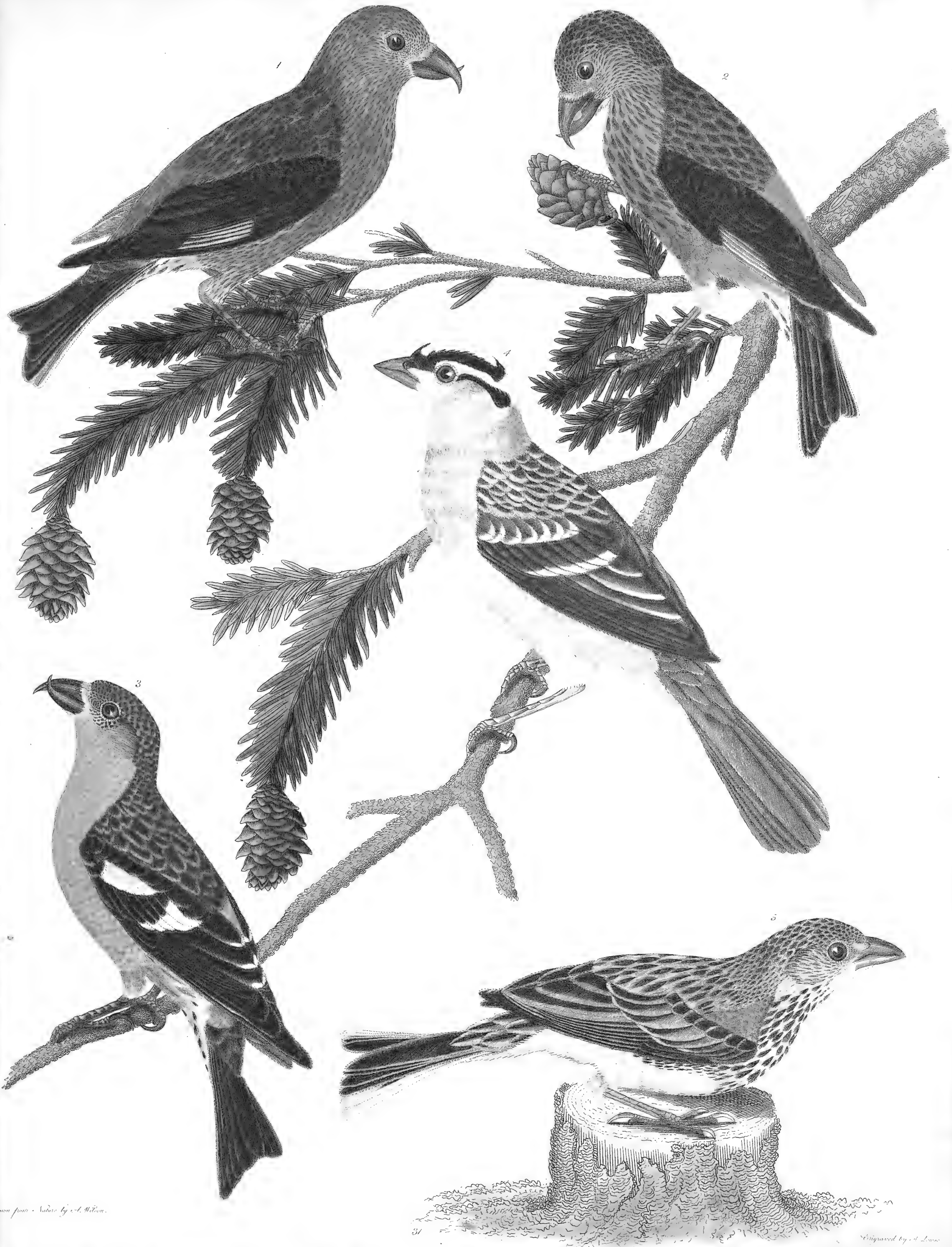
This species extends throughout the whole northern parts of Europe, is likewise found in the remote wilds of Russia; was seen by Steller in Kamtschatka; and probably inhabits corresponding climates round the whole habitable parts of the northern hemisphere. In the highlands of Scotland they are common, building often on the tops of the heath, sometimes in a low furze bush, like the common Linnet; and sometimes on the ground. The nest is formed of light stalks of dried grass, intermixed with tufts of wool, and warmly lined with feathers. The eggs are usually four, white, sprinkled with specks of reddish.

## AMERICAN CROSSBILL.

*CURVIROSTRA AMERICANA.*[Plate XXXI.—Fig. 1, *Male*.—Fig. 2, *Female*.]PEALE'S *Museum*, No. 5640.

ON first glancing at the bill of this extraordinary bird one is apt to pronounce it deformed and monstrous; but on attentively observing the use to which it is applied by the owner, and the dexterity with which he detaches the seeds of the pine tree from the cone, and from the husks that enclose them, we are obliged to confess on this as on many other occasions where we have judged too hastily of the operations of nature, that no other conformation could have been so excellently adapted to the purpose; and that its deviation from the common form, instead of being a defect or monstrosity, as the celebrated French naturalist insinuates, is a striking proof of the wisdom and kind superintending care of the great Creator.

This species is a regular inhabitant of almost all our pine forests situated north of 40°, from the beginning of September to the middle of April. It is not improbable that some of them remain during summer within the territory of the United States to breed. Their numbers must however be comparatively few, as I have never yet met with any of them in summer; tho I lately took a journey to the Great Pine swamp beyond Pocano mountain, in Northampton county, Pennsylvania, in the month of May, expressly for that purpose; and ransacked for six or seven days the gloomy recesses of that extensive and desolate morass, without being able to discover a single Crossbill. In fall however, as well as in winter and spring, this tract appears to be their favorite rendezvous;



1. American Crossbill. 2. Female. 3. White-winged Crossbill. 4. White-crowned Bunting. 5. Bay-winged Bunting.



particularly about the head waters of the Lehigh, the banks of the Tobyhanna, Tunkhannock, and Bear creek, where I have myself killed them at these seasons. They then appear in large flocks, feeding on the seeds of the hemlock and white pine, have a loud, sharp and not unmusical note; chatter as they fly; alight during the prevalence of deep snows before the door of the hunter, and around the house, picking off the clay with which the logs are plastered, and searching in corners where urine or any substance of a saline quality had been thrown. At such times they are so tame as only to settle on the roof of the cabin when disturbed, and a moment after descend to feed as before. They are then easily caught in traps; and will frequently permit one to approach so near as to knock them down with a stick. Those killed and opened at such times are generally found to have the stomach filled with a soft greasy kind of earth or clay. When kept in a cage they have many of the habits of the Parrot; often climbing along the wires; and using their feet to grasp the cones in, while taking out the seeds.

This same species is found in Nova Scotia, and as far north as Hudson's bay, arriving at Severn river about the latter end of May; and, according to accounts, proceeding farther north to breed. It is added, that "they return at the first setting in of frost."\*

Hitherto this bird has, as usual, been considered a mere *variety* of the European species; tho differing from it in several respects; and being nearly one third less; and although the singular conformation of the bill of these birds and their peculiarity of manners are strikingly different from those of the Grosbeaks, yet many disregarding these plain and obvious discriminations, still continue to consider them as belonging to the genus *Loxia*; as if the particular structure of the bill should, in all cases *but this*, be the criterion by which to judge of a species; or perhaps conceiving themselves the wiser of the two, *they* have thought proper to asso-

\* Pennant.

ciate together what *Nature* has, in the most pointed manner, placed apart.

In separating these birds, therefore, from the Grosbeaks, and classing them as a family by themselves, substituting the specific for the generic appellation, I have only followed the steps and dictates of that great Original, whose arrangements ought never to be disregarded by any who would faithfully copy her.

The Crossbills are subject to considerable changes of color; the young males of the present species being, during the first season, olive yellow mixed with ash; then bright greenish yellow intermixed with spots of dusky olive; all of which yellow plumage becomes, in the second year, of a light red, having the edges of the tail inclining to yellow. When confined in a cage they usually lose the red color at the first moulting, that tint changing to a brownish yellow, which remains permanent. The same circumstance happens to the Purple Finch and Pine Grosbeak, both of which, when in confinement, exchange their brilliant crimson for a motley garb of light brownish yellow; as I have had frequent opportunities of observing.

The male of this species, when in perfect plumage, is five inches and three quarters long, and nine inches in extent; the bill is a brown horn color, sharp, and single edged towards the extremity, where the mandibles cross each other; the general color of the plumage is a red-lead color, brightest on the rump, generally intermixed on the other parts with touches of olive; wings and tail brown black, the latter forked, and edged with yellow; legs and feet brown; claws large, much curved, and very sharp; vent white, streaked with dark ash; base of the bill covered with recumbent down, of a pale brown color; eye hazel.

The female is rather less than the male; the bill of a paler horn color; rump, tail coverts and edges of the tail golden yellow; wings and tail dull brownish black; the rest of the plumage olive yellow mixed with ash; legs and feet as in the male. The young



males during the first season, as is usual with most other birds, very much resemble the female. In moulting the males exchange their red for brownish yellow, which gradually brightens into red. Hence at different seasons they differ greatly in color.

## WHITE-WINGED CROSSBILL.

*CURVIROSTRA LEUCOPTERA.*

[Plate XXXI.—Fig. 3.]

TURTON, *Syst.* I, p. 515.

THIS is a much rarer species than the preceding; tho found frequenting the same places, and at the same seasons; differing, however from the former in the deep black wings and tail, the large bed of white on the wing, the dark crimson of the plumage; and a less and more slender conformation of body. The bird represented in the plate was shot in the neighbourhood of the Great Pine swamp, in the month of September, by my friend Mr. Ainsley, a German naturalist, collector in this country for the emperor of Austria. The individual of this species mentioned by Turton and Latham, has evidently been shot in moulting time. The present specimen was a male in full and perfect plumage.

The White-winged Crossbill is five inches and a quarter long, and eight inches and a quarter in extent; wings and tail deep black, the former crossed with two broad bars of white; general color of the plumage dark crimson, partially spotted with dusky; lores and frontlet pale brown; vent white, streaked with black; bill a brown horn color, the mandibles crossing each other as in the preceding species, the lower sometimes bending to the right, sometimes to the left, usually to the left in the male, and to the right in the female of the *American* Crossbill. The female of the present species will be introduced as soon as a good specimen can be obtained, with such additional facts relative to their manners as may then be ascertained.

## WHITE-CROWNED BUNTING.

*EMBERIZA LEUCOPHRYS.*

[Plate XXXI.—Fig. 4.]

TURTON, *Syst. p.* 536.—PEALE'S *Museum*, No. 6587.

THIS beautifully marked species is one of the rarest of its tribe in the United States, being chiefly confined to the northern districts, or higher interior parts of the country, except in severe winters when some few wanderers appear in the lower parts of the state of Pennsylvania. Of three specimens of this bird, the only ones I have yet met with, the first was caught in a trap near the city of New York, and lived with me several months. It had no song, and, as I afterwards discovered, was a female. Another, a male was presented to me by Mr. Michael of Lancaster, Pennsylvania. The third, a male, and in complete plumage, was shot in the Great Pine swamp, in the month of May, and is faithfully represented in the plate. It appeared to me to be unsuspicious, silent and solitary; flitting in short flights among the underwood and piles of prostrate trees torn up by a tornado, that some years ago passed through the swamp. All my endeavours to discover the female or nest were unsuccessful.

From the great scarcity of this species our acquaintance with its manners is but very limited. Those persons who have resided near Hudson's bay, where it is common, inform us, that it makes its nest in June, at the bottom of willows, and lays four chocolate-colored eggs. Its flight is said to be short and silent; but when it perches it sings very melodiously.\*

\* Arct. Zool.

## WHITE-CROWNED BUNTING.

The White-crowned Bunting is seven inches long, and ten inches in extent; the bill a cinnamon brown; crown from the front to the hind head pure white, bounded on each side by a stripe of black proceeding from each nostril; and these again are bordered by a stripe of pure white passing over each eye to the hind head, where they meet; below this another narrow stripe of black passes from the posterior angle of the eye, widening as it descends to the hind head; chin white; breast, sides of the neck, and upper parts of the same, very pale ash; back streaked laterally with dark rusty brown and pale bluish white; wings dusky, edged broadly with brown; the greater and lesser coverts tipped broadly with white, forming two handsome bands across the wing; tertials black, edged with brown and white; rump and tail coverts drab, tipped with a lighter tint; tail long, rounded, dusky, and edged broadly with drab; belly white; vent pale yellow ochre; legs and feet reddish brown; eye reddish hazel, lower eye lid white.

The female may easily be distinguished from the male, by the white on the head being less pure, the black also less in extent, and the ash on the breast darker; she is also smaller in size.

There is a considerable resemblance between this species and the White-throated Sparrow already described in this work. Yet they rarely associate together; the latter remaining in the lower parts of Pennsylvania in great numbers, until the beginning of May, when they retire to the north and to the high inland regions to breed; the former inhabiting much more northern countries; and tho said to be common in Canada, rarely visiting this part of the United States.

## BAY-WINGED BUNTING.

*EMBERIZA GRAMINEA.*

[Plate XXXI.—Fig. 5.]

*Grass Finch, Arct. Zool. No. 253.—LATH. III, 273.—TURTON, Syst. I, p. 565.*

THE manners of this bird bear great affinity to those of the common Bunting of Britain. It delights in frequenting grass and clover fields, perches on the tops of the fences, singing from the middle of April to the beginning of July with a clear and pleasant note, in which particular it far excels its European relation. It is partially a bird of passage here, some leaving us, and others remaining with us during the winter. In the month of March I observed them numerous in the lower parts of Georgia, where, according to Mr. Abbot, they are only winter visitants. They frequent the middle of fields more than hedges or thickets; run along the ground like a Lark, which they also resemble in the great breadth of their wings: they are timid birds; and rarely approach the farm house.

Their nest is built on the ground, in a grass or clover field, and formed of old withered leaves and dry grass; and lined with hair. The female lays four or five eggs of a greyish white. On the first week in May I found one of their nests with four young, from which circumstance I think it probable that they raise two or more brood in the same season.

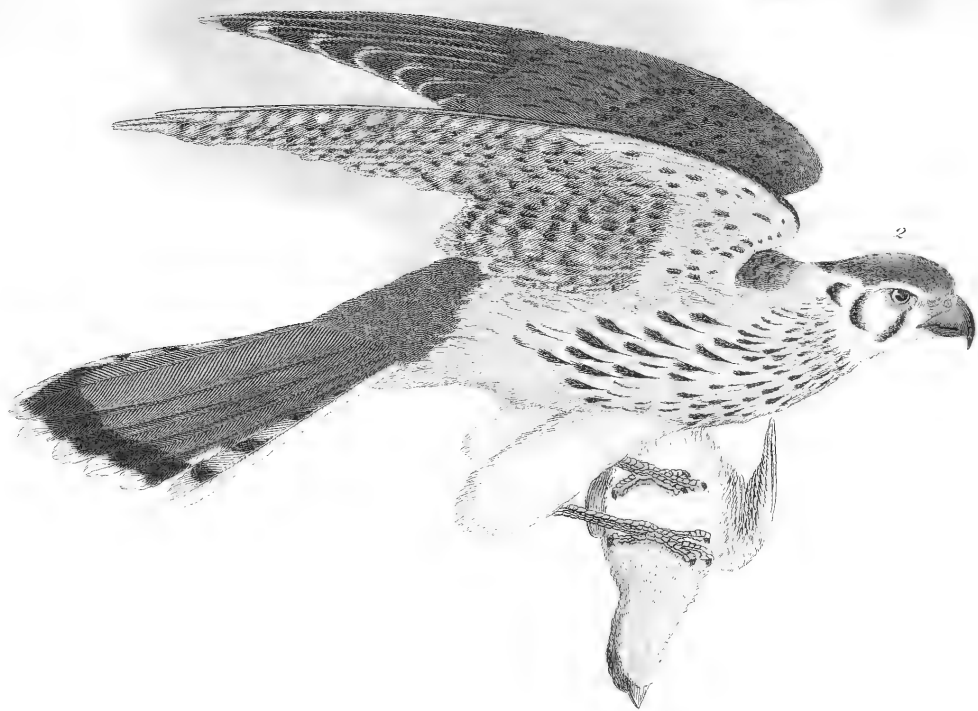
This bird measures five inches and three quarters in length, and ten inches and a half in extent; the upper parts are cinereous brown, mottled with deep brown or black; lesser wing coverts bright bay, greater black, edged with very pale brown; wings dusky, edged with brown; the exterior primary edged with white;

tail sub-cuneiform, the outer feather white on the exterior edge, and tip with white, the next tip and edged for half an inch with the same, the rest dusky, edged with pale brown; bill dark brown above, paler below; round the eye is a narrow circle of white; upper part of the breast yellowish white, thickly streaked with pointed spots of black that pass along the sides; belly and vent white; legs and feet flesh colored; third wing feather from the body nearly as long as the tip of the wing when shut.

I can perceive little or no difference between the colors and markings of the male and female.







## SNOW OWL.

*STRIX NYCTEA.*[Plate XXXII.—Fig. 1, *Male.*]

LATHAM, I, 132, No. 17.—BUFFON, I, 387.—*Great White Owl*, EDW. 61.—*Snowy Owl*,  
*Arct. Zool.* 233, No. 121.—PEALE'S *Museum*, No. 458.

THE Snow Owl represented in the plate is reduced to half its natural size. To preserve the apparent magnitude the other accompanying figures are drawn by the same scale.

This great northern hunter inhabits the coldest and most dreary regions of the northern hemisphere on both continents. The forlorn mountains of Greenland, covered with eternal ice and snows, where, for nearly half the year, the silence of death and desolation might almost be expected to reign, furnish food and shelter to this hardy adventurer; whence he is only driven by the extreme severity of weather towards the sea shore. He is found in Lapland, Norway and the country near Hudson's bay during the whole year; is said to be common in Siberia, and numerous in Kamtschatka. He is often seen in Canada and the northern districts of the United States; and sometimes extends his visits to the borders of Florida. Nature, ever provident, has so effectually secured this bird from the attacks of cold, that not even a point is left exposed. The bill is almost completely hid among a mass of feathers that cover the face; the legs are clothed with such an exuberance of long thick hair-like plumage, as to appear nearly as large as those of a middle sized dog, nothing being visible but the claws, which are large, black, much hooked, and extremely sharp. The whole plumage below the surface is of the most exquisitely soft, warm and

elastic kind, and so closely matted together as to make it a difficult matter to penetrate to the skin.

The usual food of this species is said to be hares, grouse, rabbits, ducks, mice, and even carrion. Unlike most of his tribe he hunts by day as well as by twilight, and is particularly fond of frequenting the shores and banks of shallow rivers, over the surface of which he slowly sails, or sits on a rock a little raised above the water watching for fish. These he seizes with a sudden and instantaneous stroke of the foot, seldom missing his aim. In the more southern and thickly settled parts he is seldom seen; and when he appears, his size, color, and singular aspect, attracts general notice.

In the month of October I met with this bird on Oswego river, New York state, a little below the falls, vigilantly watching for fish. At Pittsburgh in the month of February I saw another, which had been shot in the wing some time before. At a place on the Ohio called Long Reach, I examined another, which was the first ever recollected to have been seen there. In the town of Cincinnati, state of Ohio, two of these birds alighted on the roof of the court house, and alarmed the whole town. A people more disposed to superstition would have deduced some dire or fortunate prognostication from their selecting such a place; but the only solicitude was how to get possession of them, which after several volleys was at length effected. One of these, a female, I afterwards examined when on my way through that place to New Orleans. Near Bairdstown in Kentucky I met with a large and very beautiful one, which appeared to be altogether unknown to the inhabitants of that quarter, and excited general surprize. A person living on the eastern shore of Maryland shot one of these birds a few months ago, a female, and having stuffed the skin brought it to Philadelphia, to Mr. Peale in expectation no doubt of a great reward. I have examined eleven of these birds within these fifteen months last past, in different and very distant parts of the country, all of which were shot

either during winter, late in the fall, or early in spring; so that it does not appear certain whether any remain during summer within the territory of the United States; tho I think it highly probable that a few do, in some of the more northern inland parts, where they are most numerous during winter.

The colour of this bird is well suited for concealment, while roaming over the general waste of snows; and its flight strong and swift, very similar to that of some of our large Hawks. Its hearing must be exquisite, if we judge from the largeness of these organs in it; and its voice is so dismal that, as Pennant observes, it adds horror even to the regions of Greenland by its hideous cries, resembling those of a man in deep distress.

The male of this species measures twenty-two inches and a half in length, and four feet six inches in breadth; head and neck nearly white, with a few small dots of dull brown interspersed; eyes deep sunk under projecting eyebrows, the plumage at their internal angles fluted or prest in, to admit direct vision, below this it bristles up, covering nearly the whole bill; the irides are of the most brilliant golden yellow, and the countenance, from the proportionate smallness of the head, projection of the eyebrow, and concavity of the plumage at the angle of the eye, very different from that of any other of the genus; general color of the body white, marked with lunated spots of pale brown above, and with semicircular dashes below; femoral feathers long, and legs covered even over the claws with long shaggy hair-like down of a dirty white; the claws, when exposed, appear large, much hooked, of a black color, and extremely sharp pointed; back white, tail rounded at the end, white, slightly dotted with pale brown near the tips; wings when closed reach near the extremity of the tail; vent feathers large, strong shafted, and extending also to the point of the tail; upper part of the breast and belly plain white; body very broad and flat.

The female, which measures two feet in length, and five feet two inches in extent, is covered more thickly with spots of a much

darker color than those on the male; the chin, throat, face, belly and vent are white; femoral feathers white, long and shaggy, marked with a few heart-shaped spots of brown; legs also covered to the claws with long white hairy down; rest of the plumage white, every feather spotted or barred with dark brown, largest on the wing quills, where they are about two inches apart; fore part of the crown thickly marked with roundish black spots; tail crossed with bands of broad brownish spots; shafts of all the plumage white; bill and claws, as in the male, black; third and fourth wing quill the longest, span of the foot four inches.

From the various individuals of these birds which I have examined, I have reason to believe that the male alone approaches nearly to white in his plumage, the female rarely or never. The bird from which the figure in the plate was drawn, was killed at Egg Harbour, New Jersey, in the month of December. The conformation of the eye of this bird forms a curious and interesting subject to the young anatomist. The globe of the eye is immovably fixed in its socket, by a strong elastic hard cartilaginous case, in form of a truncated cone; this case being closely covered with a skin appears at first to be of one continued piece; but on removing the exterior membrane it is found to be formed of fifteen pieces, placed like the staves of a cask, overlapping a little at the base or narrow end, and seem as if capable of being enlarged or contracted, perhaps by the muscular membrane with which they are encased. In five other different species of Owls, which I have since examined, I found nearly the same conformation of this organ, and exactly the same number of staves. The eye being thus fixed, these birds, as they view different objects, are always obliged to turn the head; and nature has so excellently adapted their neck to this purpose, that they can, with ease, turn it round, without moving the body, in almost a complete circle.



## AMERICAN SPARROW HAWK.

*FALCO SPARVERIUS.*[Plate XXXII.—Fig. 2, *Male.*]

*Little Hawk, Arct. Zool.* 211, No. 110.—*Emerillon de Cayenne, BUFF.* I, 291. *Pl. enl. No.* 444.—*LATH.* I, 110.—*PEALE'S Museum, No.* 340.

THE female of this species has been already figured and described in vol. II, of this work. As they differ considerably in the markings of their plumage, the male is introduced here, drawn to one half its natural size, to conform with the rest of the figures on the plate.

The male Sparrow Hawk measures about ten inches in length, and twenty-one in extent; the whole upper parts of the head is of a fine slate blue, the shafts of the plumage being black, the crown excepted, which is marked with a spot of bright rufous; the slate tapers to a point on each side of the neck; seven black spots surround the head as in the female, on a reddish white ground, which also borders each sloping side of the blue; front, lores, line over and under the eye, chin and throat, white; femoral and vent feathers yellowish white; the rest of the lower parts of the same tint, each feather being streaked down the center with a long black drop, those on the breast slender, on the sides larger; upper part of the back and scapulars deep reddish bay, marked with ten or twelve transverse waves of black; whole wing-coverts and ends of the secondaries bright slate, spotted with black; primaries and upper half of the secondaries black, tipped with white, and spotted on their inner vanes with the same; lower part of the back, the rump and tail coverts plain bright bay; tail rounded, the two exterior feathers white, their inner vanes beautifully spotted with black; the next bright bay with

a broad band of black near its end, and tip for half an inch with yellowish white, part of its lower exterior edge white, spotted with black, and its opposite interior edge touched with white; the whole of the others are very deep red bay, with a single broad band of black near the end, and tip with yellowish white; cere and legs yellow, orbits the same, bill light blue; iris of the eye dark, almost black, claws blue black.

The character of this corresponds with that of the female given at large in vol. II, p. 17, of the present work. I have reason, however, to believe, that these birds vary considerably in the color and markings of their plumage during the first and second years; having met with specimens every way corresponding with the above, except in the breast, which was a plain rufous white, without spots; the markings on the tail also differing a little in different specimens. These I uniformly found on dissection to be males; from the stomach of one of which I took a considerable part of the carcase of a Robin (*Turdus migratorius*), including the unbroken feet and claws; tho the Robin actually measures within half an inch as long as the Sparrow Hawk.





Drawn from nature by J. Audubon.

Engraved by A. Johnston.

1. Rough-legged Falcon. 2. Barred Owl. 3. Short-eared Owl.

## ROUGH-LEGGED FALCON.

*FALCO LAGOPUS.*

[Plate XXXIII.—Fig. 1.]

*Arct. Zool. p. 200, No. 92.—LATHAM, I, 75.—PEALE'S Museum, No. 116.*

THIS handsome species, notwithstanding its formidable size and appearance, spends the chief part of the winter among our low swamps and meadows, watching for mice, frogs, lame ducks, and other inglorious game. Twenty or thirty individuals of this family have regularly taken up their winter quarters, for several years past, and probably long anterior to that date, in the meadows below this city, between the rivers Delaware and Schuylkill, where they spend their time watching along the dry banks like cats; or sailing low and slowly over the surface of the ditches. Tho rendered shy from the many attempts made to shoot them, they seldom fly far, usually from one tree to another at no great distance, making a loud squeeling as they arise, something resembling the neighing of a young colt; tho in a more shrill and savage tone.

The bird represented in the plate was one of this fraternity, and several others of the same association have been obtained and examined during the present winter. On comparing these with Pennant's description, referred to above, they corresponded so exactly that no doubts remain of their being the same species. Towards the beginning of April these birds abandon this part of the country and retire to the north to breed.

They are common during winter in the lower parts of Maryland, and numerous in the extensive meadows below Newark, New Jersey; are frequent along the Connecticut river, and according to Pennant, inhabit England, Norway and Lapmark. Their flight is

slow and heavy. They are often seen coursing over the surface of the meadows, long after sun set, many times in pairs. They generally roost on the tall detached trees that rise from these low grounds; and take their stations, at day-break, near a ditch, bank, or hay stack, for hours together, watching with patient vigilance for the first unlucky frog, mouse or lizard to make its appearance. The instant one of these is descried, the Hawk, sliding into the air and taking a circuitous course along the surface, sweeps over the spot and in an instant has his prey grappled and sprawling in the air.

The Rough-legged Hawk measures twenty-two inches in length and four feet two inches in extent; cere, sides of the mouth and feet rich yellow; legs feathered to the toes with brownish yellow plumage, streaked with brown, femorals the same; toes comparatively short, claws and bill blue black; iris of the eye bright amber; upper part of the head pale ochre streaked with brown; back and wings chocolate, each feather edged with bright ferruginous; first four primaries nearly black about the tips, edged externally with silvery in some lights; rest of the quills dark chocolate; lower side and interior vanes white; tail coverts white; tail rounded, white, with a broad band of dark brown near the end, and tipped with white; body below and breast light yellow ochre, blotched and streaked with chocolate. What constitutes a characteristic mark of this bird is a belt or girdle, of very dark brown, passing round the belly just below the breast, and reaching under the wings to the rump; head very broad, and bill uncommonly small, suited to the humility of its prey.

The female is much darker both above and below, particularly in the belt or girdle, which is nearly black; the tail coverts are also spotted with chocolate; she is also something larger.



## BARRED OWL.

*STRIX NEBULOSA.*

[Plate XXXIII.—Fig. 2.]

TURTON, *Syst.* 169.—*Arct. Zool.* p. 234, No. 122.—LATH. 133.—*Strix acclamator*, the  
*Whooping Owl*, BARTRAM, 289.—PEALE'S *Museum*, No. 464.

THIS is one of our most common Owls. In winter particularly, it is numerous in the lower parts of Pennsylvania, among the woods that border the extensive meadows of Schuylkill and Delaware. It is very frequently observed flying during day, and certainly sees more distinctly at that time than many of its genus. In one spring, at different times, I met with more than forty of them, generally flying, or sitting exposed. I also once met with one of their nests containing three young, in the crotch of a white-oak among thick foliage. The nest was rudely put together, composed outwardly of sticks, intermixed with some dry grass and leaves, and lined with smaller twigs. At another time in passing through the woods I perceived something white, on the high shaded branch of a tree, close to the trunk, that, as I thought, looked like a cat asleep. Unable to satisfy myself I was induced to fire, when to my surprise and regret, four young Owls of this same species, nearly full grown, came down headlong, and fluttering for a few moments died at my feet. Their nest was probably not far distant. I have also seen the eggs of this species, which are nearly as large as those of a young pullet, but much more globular and perfectly white.

These birds sometimes seize on fowls, partridges and young rabbits; mice, and small game are, however, their most usual food. The difference of size between the male and female of this Owl is

extraordinary, amounting sometimes to nearly eight inches in the length. Both scream during day like a Hawk.

The male Barred Owl measures sixteen inches and a half in length, and thirty-eight inches in extent; upper parts a pale brown, marked with transverse spots of white; wings barred with alternate bands of pale brown and darker; head smooth, very large, mottled with transverse touches of dark brown, pale brown and white; eyes large, deep blue, the pupil not perceivable; face, or radiated circle of the eyes, grey, surrounded by an outline of brown and white dots; bill yellow, tinged with green; breast barred transversely with rows of brown and white; belly streaked longitudinally with long stripes of brown on a yellowish ground; vent plain yellowish white; thighs and feathered legs the same, slightly pointed with brown; toes nearly covered with plumage; claws dark horn color, very sharp; tail rounded, and remarkably concave below, barred with six broad bars of brown, and as many narrow ones of white; the back and shoulders have a cast of chestnut; at each internal angle of the eye is a broad spot of black; the plumage of the radiated circle round the eye ends in long black hairs; and the bill is encompassed by others of a longer and more bristly kind. These probably serve to guard the eye when any danger approaches it in sweeping hastily through the woods; and those usually found on Flycatchers may have the same intention to fulfil; for on the slightest touch of the point of any of these hairs, the nictitant membrane was instantly thrown over the eye.

The female is twenty-two inches long, and four feet in extent; the chief difference of color consists in her wings being broadly spotted with white; the shoulder being a plain chocolate brown; the tail extends considerably beyond the tips of the wings; the bill is much larger, and of a more golden yellow; iris of the eye the same as that of the male.

The different character of the feathers of this, and I believe of most Owls is really surprising. Those that surround the bill

differ little from bristles; those that surround the region of the eyes are exceeding open, and unwebbed; these are bounded by another set, generally proceeding from the external edge of the ear, of a most peculiar small narrow velvety kind, whose fibres are so exquisitely fine as to be invisible to the naked eye; above, the plumage has one general character at the surface, calculated to repel rain and moisture; but towards the roots it is of the most soft, loose and downy substance in nature, so much so that it may be touched without being felt; the webs of the wing quills are also of a delicate softness, covered with an almost imperceptible hair, and edged with a loose silky down, so that the owner passes through the air without interrupting the most profound silence. Who cannot perceive the hand of God in all these things!

## SHORT-EARED OWL.

*STRIX BRACHYOTOS.*

[Plate XXXIII.—Fig. 3.]

TURTON, *Syst.* p. 167.—*Arct. Zool.* p. 229, No. 116.—LATH. I, 124.—*La Chouetté, ou la grand Chevêche*, BUFF. I. *Pl. enl.* 438.—PEALE'S *Museum*, No. 440.

THIS is another species common to both continents, being found in Britain as far north as the Orkney isles, where it also breeds; building its nest upon the ground, amidst the heath; arrives and disappears in the south parts of England with the Woodcock, that is in October and April; consequently does not breed there. It is called at Hudson's bay the Mouse Hawk; and is described as not flying like other Owls in search of prey; but sitting quiet on a stump of a tree, watching for mice. It is said to be found in plenty in the woods near Chatteau bay, on the coast of Labrador. In the United States it is also a bird of passage, coming to us from the north in November, and departing in April. The bird represented in the plate was shot in New Jersey, a few miles below Philadelphia, in a thicket of pines. It has the stern aspect of a keen, vigorous and active bird; and is reputed to be an excellent mouser. It flies frequently by day, particularly in dark cloudy weather, takes short flights, and, when sitting and looking sharply around, erects the two slight feathers that constitute its horns, which are at such times very noticeable; but otherwise not perceivable. No person on slightly examining this bird after being shot, would suspect it to be furnished with horns; nor are they discovered but by careful search, or previous observation on the living bird. Bewick, in his *History of British Birds*, remarks, that this species is

sometimes seen in companies ; twenty-eight of them being once counted in a turnip field in November.

Length fifteen inches, extent three feet four inches ; general color above dark brown, the feathers broadly skirted with pale yellowish brown ; bill large, black ; irides rich golden yellow, placed in a bed of deep black, which radiates outwards all around, except towards the bill, where the plumage is whitish ; ears bordered with a semicircular line of black and tawny yellow dots ; tail rounded, longer than usual with Owls, crossed with five bands of dark brown, and as many of yellow ochre, some of the latter have central spots of dark brown, the whole tipped with white ; quills also banded with dark brown and yellow ochre ; breast and belly streaked with dark brown on a ground of yellowish ; legs, thighs and vent plain dull yellow ; tips of the three first quill feathers black ; legs clothed to the claws, which are black, curved to about the quarter of a circle, and exceedingly sharp.

The female I have never seen ; but she is said to be somewhat larger and much darker ; and the spots on the breast larger and more numerous.

## LITTLE OWL.

*STRIX PASSERINA.*

[Plate XXXIV.—Fig. 1.]

*Arct. Zool.* 236, No. 126.—TURTON, *Syst.* 172.—PEALE'S *Museum*, No. 522.

THIS is one of the least of its whole genus, but like many other little folks makes up in neatness of general form and appearance, for deficiency of size, and is perhaps the most shapely of all our Owls. Nor are the colors and markings of its plumage inferior in simplicity and effect to most others. It also possesses an eye fully equal in spirit and brilliancy to the best of them.

This species is a general and constant inhabitant of the middle and northern states; but is found most numerous in the neighbourhood of the sea shore, and among woods and swamps of pine trees. It rarely rambles much during day; but if disturbed flies a short way, and again takes shelter from the light; at the approach of twilight it is all life and activity; being a noted and dexterous mouse-catcher. It is found as far north as Nova Scotia, and even Hudson's bay; is frequent in Russia; builds its nest generally in pines, half way up the tree, and lays two eggs, which like those of the rest of its genus are white. The melancholy and gloomy umbrage of those solitary evergreens forms its favorite haunts where it sits dosing and slumbering all day, lulled by the roar of the neighbouring ocean.

The Little Owl is seven inches and a half long, and eighteen inches in extent; the upper parts are a plain brown olive, the scapulars and some of the greater and lesser coverts being spotted with white; the first five primaries are crossed obliquely with five bars of white; tail rounded, rather darker than the body, crossed





Drawn from Nature by A. Wilson.

31.

Engraved by J. L. Leeson.

1. Little Owl. 2. Sea-side Finch. 3. Sharp-tailed F. 4. Savannah F.





with two rows of white spots, and tip with white; whole interior vanes of the wings spotted with the same; auriculars yellowish brown; crown, upper part of the neck, and circle surrounding the ears beautifully marked with numerous points of white on an olive brown ground; front pure white, ending in long blackish hairs; at the internal angle of the eyes a broad spot of black radiating outwards; irides pale yellow; bill a blackish horn color, lower parts streaked with yellow ochre and reddish bay; thighs and feathered legs pale buff; toes covered to the claws, which are black, large and sharp pointed.

The bird from which the foregoing figure and description was taken was shot on the sea shore, near Great Egg-harbour, in New Jersey, in the month of November, and on dissection was found to be a female. Turton describes a species called the White-fronted Owl, (*S. albifrons*), which in every thing except the size agrees with this bird, and has very probably been taken from a young male, which is sometimes found considerably less than the female.

## SEA-SIDE FINCH.

*FRINGILLA MARITIMA.*

[Plate XXXIV.—Fig. 2.]

OF this bird I can find no description. It inhabits the low, rush-covered sea islands along our Atlantic coast, where I first found it; keeping almost continually within the boundaries of tide water, except when long and violent east or north-easterly storms, with high tides, compel it to seek the shore. On these occasions it courses along the margin, and among the holes and interstices of the weeds and sea-wrack, with a rapidity equalled only by the nimblest of our Sandpipers, and very much in their manner. At these times also it roosts on the ground, and runs about after dusk.

This species derives its whole subsistence from the sea. I examined a great number of individuals by dissection, and found their stomachs universally filled with fragments of shrimps, minute shell fish, and broken limbs of small sea crabs. Its flesh, also, as was to be expected, tasted of fish, or was what is usually termed *sedgy*. Amidst the recesses of these wet sea marshes it seeks the rankest growth of grass, and sea weed, and climbs along the stalks of the rushes with as much dexterity as it runs along the ground, which is rather a singular circumstance, most of our climbers being rather awkward at running.

The Sea-side Finch is six inches and a quarter long, and eight and a quarter in extent; chin pure white, bordered on each side by a stripe of dark ash, proceeding from each base of the lower mandible, above that is another slight streak of white; from the nostril over the eye extends another streak which immediately over the lores is rich yellow, bordered above with white, and ending in yellow olive; crown brownish olive, divided laterally by a stripe

of slate blue, or fine light ash; breast ash, streaked with buff; belly white; vent buff-colored, and streaked with black; upper parts of the back, wings and tail a yellowish brown olive; intermixed with very pale blue; greater and lesser coverts tipped with dull white; edge of the bend of the wing rich yellow; primaries edged with the same immediately below their coverts; tail cuneiform, olive brown, centered with black; bill dusky above, pale blue below, longer than is usual with Finches; legs and feet a pale bluish white; irides hazel. Male and female nearly alike in color.

## SHARP-TAILED FINCH.

*FRINGILLA CAUDACUTA.*

[Plate XXXIV.—Fig. 3.]

PEALE'S *Museum*, No. 6442.

A BIRD of this denomination is described by Turton, Syst. p. 562; but which by no means agrees with the present. This, however, may be the fault of the describer, as it is said to be a bird of Georgia; unwilling, therefore, to multiply names unnecessarily, I have adopted his appellation. In some future part of the work I shall settle this matter with more precision.

This new (as I apprehend it) and beautiful species is an associate of the former, inhabits the same places, lives on the same food; and resembles it so much in manners, that but for their dissimilarity in some essential particulars, I would be disposed to consider them as the same in a different state of plumage. They are much less numerous than the preceding, and do not run with equal celerity.

The Sharp-tailed Finch is five inches and a quarter long, and seven inches and a quarter in extent; bill dusky; auriculars ash; from the bill over the eye and also below it run two broad stripes of brownish orange; chin whitish; breast pale buff, marked with small pointed spots of black; belly white; vent reddish buff; from the base of the upper mandible a broad stripe of pale ash runs along the crown and hind head, bordered on each side by one of blackish brown; back a yellowish brown olive, some of the feathers curiously edged with semicircles of white; sides under the wings buff, spotted with black; wing coverts and tertials black, broadly edged with light reddish buff; tail cuneiform, short; all the

## SHARP-TAILED FINCH.

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feathers sharp pointed ; belly white ; vent dark buff ; legs a yellow clay color ; irides hazel.

I examined many of these birds, and found but little difference in the color and markings of their plumage.

## SAVANNAH FINCH.

*FRINGILLA SAVANNA.*[Plate XXXIV.—Fig. 4, *Male.*]PEALE'S *Museum*, No. 6583.

THIS delicately marked Sparrow has been already taken notice of in a preceding part of this work, where a figure of the female was introduced. The present figure was drawn from a very beautiful male, and is a faithful representation of the original.

The length is five and a half inches, extent eight and a half; bill pale brown; eyebrows Naples yellow; breast and whole lower parts pure white, the former marked with small pointed spots of brown; upper parts a pale whitish drab, mottled with reddish brown; wing-coverts edged and tipped with white; tertials black, edged with white and bay; legs pale clay; ear feathers tinged with Naples yellow. The female and young males are less and much darker.

This is probably the most timid of all our Sparrows. In winter it frequents the sea shores; but as spring approaches migrates to the interior, as I have lately discovered, building its nest in the grass nearly in the same form, tho with fewer materials, as that of the Bay-winged Bunting. On the twenty-third of May I found one of these at the root of a clump of rushes in a grass field, with three young, nearly ready to fly. The female counterfeited lameness, spreading its wings and tail, and using many affectionate stratagems to allure me from the place. The eggs I have never seen.







## WINTER FALCON.

*FALCO HYEMALIS.*

[Plate XXXV.—Fig. 1.]

TURTON, *Syst. p.* 156.—*Arct. Zool. p.* 209, *No.* 107.—PEALE'S *Museum*, *No.* 272 & 273.

THIS elegant and spirited Hawk is represented in the plate of one half its natural size; the other two figures are reduced in the same proportion. He visits us from the north early in November, and leaves us late in March.

This is a dexterous Frog-catcher; who, that he may pursue his profession with full effect, takes up his winter residence almost entirely among our meadows and marshes. He sometimes stuffs himself so enormously with these reptiles that the prominency of his crop makes a large bunch, and he appears to fly with difficulty. I have taken the broken fragments and whole carcasses of ten frogs of different dimensions from the crop of a single individual. Of his genius and other exploits I am unable to say much. He appears to be a fearless and active bird, silent, and not very shy. One which I kept for some time, and which was slightly wounded, disdained all attempts made to reconcile him to confinement; and would not suffer a person to approach without being highly irritated; throwing himself backward, and striking with expanded talons, with great fury. Tho shorter winged than some of his tribe, yet I have no doubt, but with proper care he might be trained to strike nobler game, in a bold style, and with great effect. But the education of Hawks in this country may well be postponed for a time, until fewer improvements remain to be made in that of the human subject.

Length of the Winter Hawk twenty inches, extent forty-one inches, or nearly three feet six inches; cere and legs yellow, the latter long, and feathered for an inch below the knee; bill bluish black, small, furnished with a tooth in the upper mandible; eye bright amber, cartilage over the eye very prominent, and of a dull green; head, sides of the neck and throat dark brown, streaked with white; lesser coverts with a strong glow of ferruginous; secondaries pale brown, indistinctly barred with darker; primaries brownish orange spotted with black, wholly black at the tips; tail long, slightly rounded, barred alternately with dark and pale brown; inner vanes white, exterior feathers brownish orange; wings when closed reach rather beyond the middle of the tail; tail coverts white, marked with heart-shaped spots of brown, breast and belly white, with numerous long drops of brown, the shafts blackish; femoral feathers large, pale yellow ochre, marked with numerous minute streaks of pale brown; claws black. The legs of this bird are represented by different authors as slender; but I saw no appearance of this in those I examined.

The female is considerably darker above and about two inches longer.

## MAGPIE.

*CORVUS PICA.*

[Plate XXXV.—Fig. 2.]

*Arct. Zool. No. 136.*—LATH. I, 392.—BUFF. III, 85.—PEALE'S *Museum*, No. 1333.

THIS bird is much better known in Europe than in this country, where it has not been long discovered; although it is now found to inhabit a wide extent of territory, and in great numbers. The drawing was taken from a very beautiful specimen, sent from the Mandan nation, on the Missouri, to Mr. Jefferson, and by that gentleman to Mr. Peale of this city, in whose Museum it lived for several months, and where I had an opportunity of examining it. On carefully comparing it with the European Magpie in the same collection, no material difference could be perceived. The figure on the plate is reduced to exactly half the size of life.

This bird unites in its character courage and cunning, turbulence and rapacity. Not inelegantly formed, and distinguished by gay as well as splendid plumage, he has long been noted in those countries where he commonly resides, and his habits and manners are there familiarly known. He is particularly pernicious to plantations of young oaks, tearing up the acorns; and also to birds, destroying great numbers of their eggs and young, even young chickens, partridges, grouse and pheasants. It is perhaps on this last account that the whole vengeance of the game laws has lately been let loose upon him, in some parts of Britain; as appears by accounts from that quarter, where premiums, it is said, are offered for his head, as an arch poacher; and penalties inflicted on all those who permit him to breed on their premises. Under the lash of such rigorous persecution, a few years will pro-

bably exterminate the whole tribe from the island. He is also destructive to gardens and orchards; is noisy and restless, almost constantly flying from place to place; alights on the backs of the cattle, to rid them of the larvæ that fester in the skin; is content with carrion when nothing better offers; eats various kinds of vegetables, and devours greedily grain, worms, and insects of almost every description. When domesticated he is easily taught to imitate the human voice, and to articulate words pretty distinctly, has all the pilfering habits of his tribe, filling every chink, nook and crevice with whatever he can carry off; is subject to the epilepsy, or some similar disorder; and is, on the whole, a crafty, restless and noisy bird.

He generally selects a tall tree, adjoining the farm house for his nest, which is placed among the highest branches; this is large, composed outwardly of sticks, roots, turf and dry weeds, and well lined with wool, cow hair and feathers; the whole is surrounded, roofed and barricadoed with thorns, leaving only a narrow entrance. The eggs are usually five, of a greenish color, marked with numerous black or dusky spots. In the northern parts of Europe he migrates at the commencement of winter.

In this country the Magpie was first taken notice of at the factories or trading houses, on Hudson's bay, where the Indians used sometimes to bring it in, and gave it the name of *Heart-bird*, for what reason is uncertain. It appears, however, to be rather rare in that quarter. These circumstances are taken notice of by Mr. Pennant and other British naturalists.

In 1804 an exploring party under the command of captains Lewis and Clark, on their route to the Pacific ocean across the continent, first met with the Magpie, somewhere near the great bend of the Missouri, and found that the number of these birds increased as they advanced. Here also the Blue Jay disappeared; as if the territorial boundaries and jurisdiction of these two noisy and voracious families of the same tribe, had been mutually agreed



on, and distinctly settled. But the Magpie was found to be far more daring than the Jay, dashing into their very tents, and carrying off the meat from the dishes. One of the hunters who accompanied the expedition informed me that they frequently attended him while he was engaged in skinning and cleaning the carcase of the deer, bear or buffaloe he had killed, often seizing the meat that hung within a foot or two of his head. On the shores of the Koos-koos-ke river, on the west side of the great range of Rocky mountains, they were found to be equally numerous.

It is highly probable that those vast plains or prairies, abounding with game and cattle, frequently killed for the mere hides, tallow, or even marrow bones, may be one great inducement for the residency of these birds, so fond of flesh and carrion. Even the rigorous severity of winter in the high regions along the head waters of Rio du Nord, the Arkansaw and Red river, seems insufficient to force them from those favorite haunts; tho it appears to increase their natural voracity to a very uncommon degree. Colonel Pike relates, that in the month of December, in the neighbourhood of the North mountain, N. lat. 41°. W. long. 34°. Reaumur's thermometer standing at 17° below 0, these birds were seen in great numbers. "Our horses," says he, "were obliged to scrape the snow away to obtain their miserable pittance; and to increase their misfortunes, the poor animals were attacked by the Magpies, who, attracted by the scent of their sore backs, alighted on them, and in defiance of their wincing and kicking, picked many places quite raw. The difficulty of procuring food rendered those birds so bold as to light on our men's arms, and eat meat out of their hands."\*

The Magpie is eighteen inches in length; the head, neck, upper part of the breast and back, are a deep velvety black; primaries brownish black, streaked along their inner vanes with white;

\* Pike's Journal, p. 170.



secondaries rich purplish blue; greater coverts green blue; scapulars, lower part of the breast and belly white; thighs and vent black; tail long, the two exterior feathers scarcely half the length of the longest, the others increasing to the two middle ones, which taper towards their extremities. The color of this part of the plumage is very splendid, being glossy green, dashed with blue and bright purple; this last color bounds the green; nostrils covered with a thick tuft of recumbent hairs, as are also the sides of the mouth; bill, legs and feet glossy black. The female differs only in the less brilliancy of her plumage.

## CROW.

*CORVUS CORONE.*

[Plate XXXV.—Fig. 3.]

PEALE'S *Museum*, No. 1246.

THIS is perhaps the most generally known, and least beloved, of all our land birds; having neither melody of song, nor beauty of plumage, nor excellence of flesh, nor civility of manners to recommend him; on the contrary he is branded as a thief and a plunderer; a kind of black-coated vagabond, who hovers over the fields of the industrious, fattening on their labours; and by his voracity often blasting their expectations. Hated as he is by the farmer, watched and persecuted by almost every bearer of a gun, who all triumph in his destruction, had not heaven bestowed on him intelligence and sagacity far beyond common, there is reason to believe that the whole tribe (in these parts at least) would long ago have ceased to exist.

The Crow is a constant attendant on agriculture, and a general inhabitant of the cultivated parts of North America. In the interior of the forest he is more rare, unless during the season of breeding. He is particularly attached to low flat corn countries, lying in the neighbourhood of the sea or of large rivers; and more numerous in the northern than southern states, where Vultures abound, and with whom the Crows are unable to contend. A strong antipathy, it is also said, prevails between the Crow and the Raven, insomuch that where the latter are numerous, the former rarely resides. Many of the first settlers of the Genesee country have informed me, that for a long time, Ravens were numerous with them, but no Crows; and even now the latter are seldom ob-

served in that country. In travelling from Nashville to Natchez, a distance of four hundred and seventy miles, I saw few or no Crows, but Ravens frequently, and Vultures in great numbers.

The usual breeding time of the Crow, in Pennsylvania, is in March, April and May, during which season they are dispersed over the woods in pairs, and roost in the neighbourhood of the tree they have selected for their nest. About the middle of March they begin to build, generally choosing a high tree; tho I have also known them prefer a middle sized cedar. One of their nests, now before me, is formed externally of sticks, wet moss, thin bark mixed with mossy earth, and lined with large quantities of horse hair, to the amount of more than half a pound, some cow hair, and some wool, forming a very soft and elastic bed. The eggs are four, of a pale green color, marked with numerous specks and blotches of olive.

During this interesting season the male is extremely watchful, making frequent excursions of half a mile or so in circuit, to reconnoitre; and the instant he observes a person approaching, he gives the alarm, when both male and female retire to a distance till the intruder has gone past. He also regularly carries food to his mate while she is sitting; occasionally relieves her; and when she returns, again resigns up his post. At this time also, as well as until the young are able to fly, they preserve uncommon silence, that their retreat may not be suspected.

It is in the month of May, and until the middle of June, that the Crow is most destructive to the corn-fields, digging up the newly planted grains of maize, pulling up by the roots those that have begun to vegetate, and thus frequently obliging the farmer to replant, or lose the benefit of the soil; and this sometimes twice, and even three times, occasioning a considerable additional expense and inequality of harvest. No mercy is now shewn him. The myriads of worms, moles, mice, caterpillars, grubs and beetles which he has destroyed, are altogether overlooked on these occasions. Detected

in robbing the hens' nests, pulling up the corn, and killing the young chickens, he is considered as an outlaw, and sentenced to destruction. But the great difficulty is how to put this sentence in execution. In vain the gunner skulks along the hedges and fences, his faithful centinels, planted on some commanding point, raise the alarm, and disappoint vengeance of its object. The coast again clear, he returns once more in silence to finish the repast he had begun. Sometimes he approaches the farm house by stealth, in search of young chickens, which he is in the habit of snatching off when he can elude the vigilance of the mother hen, who often proves too formidable for him. A few days ago a Crow was observed eagerly attempting to seize some young chickens in an orchard, near the room where I write; but these clustering close round the hen, she resolutely defended them, drove the Crow into an apple tree, whither she instantly pursued him with such spirit and intrepidity, that he was glad to make a speedy retreat, and abandon his design.

The Crow himself sometimes falls a prey to the superior strength and rapacity of the Great Owl, whose weapons of offence are by far the more formidable of the two.\*

\* "A few years ago," says an obliging correspondent, "I resided on the banks of the Hudson, about seven miles from the city of New York. Not far from the place of my residence was a pretty thick wood or swamp, in which great numbers of Crows, who used to cross the river from the opposite shore, were accustomed to roost. Returning homeward one afternoon from a shooting excursion, I had occasion to pass through this swamp. It was near sunset, and troops of Crows were flying in all directions over my head. While engaged in observing their flight, and endeavouring to select from among them an object to shoot at, my ears were suddenly assailed by the distressful cries of a Crow, who was evidently struggling under the talons of a merciless and rapacious enemy. I hastened to the spot whence the sounds proceeded, and to my great surprise, found a Crow lying on the ground, just expiring, and seated upon the body of the yet warm and bleeding quarry, a *large brown Owl*, who was beginning to make a meal of the unfortunate robber of corn-fields. Perceiving my approach, he forsook his prey with evident reluctance, and flew into a tree at a little distance, where he sat watching all my movements, alternately regarding, with longing eyes, the victim he had been forced to leave, and darting at me no very friendly looks, that seemed to reproach me for hav-

Towards the close of summer the parent Crows with their new families, forsaking their solitary lodgings, collect together, as if by previous agreement, when evening approaches. About an hour before sunset they are first observed, flying somewhat in Indian file, in one direction, at a short height above the tops of the trees, silent and steady, keeping the general curvature of the ground, continuing to pass sometimes till after sunset, so that the whole line of march would extend for many miles. This circumstance, so familiar and picturesque, has not been overlooked by the poets in their descriptions of a rural evening. Burns, in a single line has finely sketched it

“ The black’ning train of Crows to their repose.”

The most noted Crow roost with which I am acquainted is near Newcastle, on an island in the Delaware. It is there known by the name of the *Pea Patch*, and is a low flat alluvial spot of a few

ing deprived him of his expected regale. I confess that the scene before me was altogether novel and surprising. I am but little conversant with natural history ; but I had always understood, that the depredations of the Owl were confined to the smaller birds and animals of the lesser kind, such as mice, young rabbits, &c. and that he obtained his prey rather by fraud and stratagem, than by open rapacity and violence. I was the more confirmed in this belief, from the recollection of a passage in *Macbeth*, which now forcibly recurred to my memory.—The courtiers of King Duncan are recounting to each other the various prodigies that preceded his death, and one of them relates to his wondering auditors, that

‘ An Eagle, tow’ring in his pride of place,  
‘ Was by a *mousing Owl*, hawk’d at and kill’d.’

But to resume my relation—That the Owl was the murderer of the unfortunate Crow, there could be no doubt. No other bird of prey was in sight; I had not fired my gun since I entered the wood; nor heard any one else shoot: besides, the unequivocal situation in which I found the parties, would have been sufficient before any ‘ twelve good men and true,’ or a jury of Crows, to have convicted him of his guilt. It is proper to add, that I avenged the death of the hapless Crow, by a well aimed shot at the felonious robber, that extended him breathless on the ground.”

acres, elevated but a little above high water mark, and covered with a thick growth of reeds. This appears to be the grand rendezvous, or head quarters, of the greater part of the Crows within forty or fifty miles of the spot. It is entirely destitute of trees, the Crows alighting and nestling among the reeds, which by these means are broken down and matted together. The noise created by those multitudes, both in their evening assembly, and re-ascension in the morning; and the depredations they commit in the immediate neighbourhood of this great resort, are almost incredible. Whole fields of corn are sometimes laid waste by thousands alighting on it at once, with appetites whetted by the fast of the preceding night; and the utmost vigilance is unavailing to prevent, at least, a partial destruction of this their favorite grain. Like the stragglers of an immense, undisciplined and rapacious army, they spread themselves over the fields, to plunder and destroy wherever they alight. It is here that the character of the Crow is universally execrated; and to say to the man who has lost his crop of corn by these birds, that Crows are exceedingly useful for destroying vermin, would be as consolatory as to tell him who had just lost his house and furniture by the flames, that fires are excellent for destroying bugs.

The strong attachment of the Crows to this spot may be illustrated by the following circumstance. Some years ago a sudden and violent north-east storm came on during the night, and the tide, rising to an uncommon height, inundated the whole island. The darkness of the night, the suddenness and violence of the storm, and the incessant torrents of rain that fell, it is supposed, so intimidated the Crows that they did not attempt to escape, and almost all perished. Thousands of them were next day seen floating in the river; and the wind shifting to the north-west, drove their dead bodies to the Jersey side, where for miles they blackened the whole shore.

This disaster, however, seems long ago to have been repaired; for they now congregate on the *Pea Patch* in as immense multitudes as ever.\*

So universal is the hatred to Crows, that few states either here or in Europe, have neglected to offer rewards for their destruction. In the United States they have been repeatedly ranked in our laws with the wolves, the panthers, foxes and squirrels, and a proportionable premium offered for their heads, to be paid by any justice of the peace to whom they are delivered. On all these accounts various modes have been invented for capturing them. They have been taken in clap-nets commonly used for taking pigeons; two or three live Crows being previously procured as decoys, or as they are called *Stool-crows*. Corn has been steeped in a strong decoction of hellebore, which when eaten by them produces giddiness, and finally, it is said, death. Pieces of paper formed into the shape of a hollow cone, besmeared within with birdlime, and a grain or two of corn dropped on the bottom, have also been adopted. Numbers of these being placed on the ground, where corn has been planted, the Crows attempting to reach the grains are instantly hood-winked, fly directly upwards to a great height; but generally descend near the spot whence they rose, and are easily taken. The reeds of their roosting places are sometimes set on fire during a dark night, and the gunners having previously posted themselves

\* The following is extracted from the late number of a newspaper printed in that neighbourhood.—

“The farmers of Red Lion hundred held a meeting at the village of St. Georges, in the state of Delaware, on Monday the 6th inst. to receive proposals of John Deputy, on a plan for banishing or destroying the Crows.—Mr. Deputy’s plan being heard and considered was approved, and a committee appointed to contract with him, and to procure the necessary funds to carry the same into effect. Mr. Deputy proposes, that for five hundred dollars he will engage to kill or banish the Crows from their roost on the Pea patch, and give security to return the money on failure.

“The sum of five hundred dollars being thus required, the committee beg leave to address the farmers and others of Newcastle county and elsewhere on the subject.”



around, the Crows rise in great uproar, and amidst the general consternation, by the light of the burnings, hundreds of them are shot down.

Crows have been employed to catch Crows by the following stratagem. A live Crow is pinned by the wings down to the ground on his back, by means of two sharp, forked sticks. Thus situated his cries are loud and incessant, particularly if any other Crows are within view. These sweeping down about him, are instantly grappled by the prostrate prisoner, by the same instinctive impulse that urges a drowning person to grasp at every thing within his reach. Having disengaged the game from his clutches the trap is again ready for another experiment; and by pinning down each captive, successively, as soon as taken, in a short time you will probably have a large flock screaming above you, in concert with the outrageous prisoners below. Many farmers, however, are content with hanging up the skins, or dead carcasses, of Crows in their cornfields, by way of terrorem; others depend altogether on the gun, keeping one of their people supplied with ammunition, and constantly on the look out. In hard winters the Crows suffer severely, so that they have been observed to fall down in the fields, and on the roads, exhausted with cold and hunger. In one of these winters, and during a long continued deep snow, more than six hundred Crows were shot on the carcase of a dead horse, which was placed at a proper distance from the stable, from a hole of which the discharges were made. The premiums awarded for these, with the price paid for the quills, produced nearly as much as the original value of the horse, besides, as the man himself assured me, saving feathers sufficient for filling a bed.

The Crow is easily raised and domesticated; and it is only when thus rendered unsuspicious of, and placed on terms of familiarity with man, that the true traits of his genius and native disposition fully develope themselves. In this state he soon learns to distinguish all the members of the family; flies towards the gate,

screaming at the approach of a stranger; learns to open the door by alighting on the latch; attends regularly at the stated hours of dinner and breakfast; which he appears punctually to recollect; is extremely noisy and loquacious; imitates the sound of various words, pretty distinctly; is a great thief and hoarder of curiosities, hiding in holes, corners and crevices every loose article he can carry off, particularly small pieces of metal, corn, bread and food of all kinds; is fond of the society of his master, and will know him even after a long absence; of which the following is a remarkable instance, and may be relied on as a fact. A very worthy gentleman, now living in the Genesee country, but who, at the time alluded to, resided on the Delaware, a few miles below Easton, had raised a Crow, with whose tricks and society he used frequently to amuse himself. This Crow lived long in the family; but at length disappeared, having, as was then supposed, being shot by some vagrant gunner, or destroyed by accident. About eleven months after this, as the gentleman, one morning, in company with several others, was standing on the river shore, a number of Crows happening to pass by, one of them left the flock, and flying directly towards the company, alighted on the gentleman's shoulder, and began to gabble away with great volubility, as one long absent friend naturally enough does on meeting with another. On recovering from his surprise the gentleman instantly recognized his old acquaintance; and endeavoured by several civil but sly manœuvres to lay hold of him; but the Crow, not altogether relishing quite so much familiarity, having now had a taste of the sweets of liberty, cautiously eluded all his attempts; and suddenly glancing his eye on his distant companions, mounted in the air after them, soon overtook and mingled with them, and was never afterward seen to return.

The habits of the Crow in his native state are so generally known as to require little further illustration. His watchfulness, and jealous sagacity in distinguishing a person with a gun, are no-

torious to every one. In spring, when he makes his appearance among the groves and low thickets, the whole feathered songsters are instantly alarmed, well knowing the depredations and murders he commits on their nests, eggs and young. Few of them, however, have the courage to attack him, except the King-bird, who on these occasions teases and pursues him from place to place, diving on his back while high in air, and harassing him for a great distance. A single pair of these noble spirited birds, whose nest was built near, have been known to protect a whole field of corn from the depredations of the Crows, not permitting one to approach it.

The Crow is eighteen inches and a half long, and three feet two inches in extent; the general color is a shining glossy blue black, with purplish reflexions; the throat and lower parts are less glossy; the bill and legs a shining black, the former two inches and a quarter long, very strong, and covered at the base with thick tufts of recumbent feathers; the wings, when shut, reach within an inch and a quarter of the tip of the tail, which is rounded; fourth primary the longest; secondaries scalloped at the ends, and minutely pointed, by the prolongation of the shaft; iris dark hazel.

The above description agrees so nearly with the European species as to satisfy me that they are the same; tho the voice of ours is said to be less harsh, not unlike the barking of a small spaniel; the pointedness of the ends of the tail feathers, mentioned by European naturalists, and occasioned by the extension of the shafts, is rarely observed in the present species; tho always very observable in the secondaries.

The female differs from the male in being more dull colored, and rather deficient in the glossy and purplish tints and reflexions. The difference however is not great.

Besides grain, insects and carrion, they feed on frogs, tadpoles, small fish, lizards and shell fish; with the latter they frequently mount to a great height, dropping them on the rocks below, and

descending after them to pick up the contents. The same habit is observable in the Gull, the Raven, and Sea-side Crow. Many other aquatic insects, as well as marine plants, furnish him with food; which accounts for their being so generally found, and so numerous on the sea shore, and along the banks of our large rivers.





Engraved by L. Brown.

White-headed Eagle.



Engraved by L. Brown.



## WHITE-HEADED, OR BALD EAGLE.\*

*FALCO LEUCOCEPHALUS.*

[Plate XXXVI.]

LINN. *Syst.* 124.—LATH. I, 29.—*Le Pygargue a tête blanc*, BUFF. I, 99. *Pl. enl.* 411.—*Arct. Zool.* 196, No. 89.—*Bald Eagle*, CATESB. I, 1.—PEALE'S *Museum*, No. 78.

THIS distinguished bird, as he is the most beautiful of his tribe in this part of the world, and the adopted *emblem* of our country, is entitled to particular notice. He is represented, in the plate, of one third his natural size, and was drawn from one of the largest and most perfect specimens I have yet met with. In the back ground is seen a distant view of the celebrated cataract of Niagara, a noted place of resort for those birds, as well on account of the fish procured there, as for the numerous carcasses of squirrels, deer, bear and various other animals, that in their attempts to cross the river above the falls, have been dragged into the current, and precipitated down that tremendous gulf, where, among the rocks that bound the rapids below, they furnish a rich repast for the Vulture, the Raven, and the Bald Eagle, the subject of the present account.

This bird has been long known to naturalists, being common to both continents, and occasionally met with from a very high northern latitude, to the borders of the torrid zone, but chiefly in the vicinity of the sea, and along the shores and cliffs of our lakes

\* The epithet *bald*, applied to this species, whose head is thickly covered with feathers, is equally improper and absurd with the titles Goatsucker, Kingfisher, &c. bestowed on others; and seems to have been occasioned by the white appearance of the head, when contrasted with the dark color of the rest of the plumage. The appellation, however, being now almost universal is retained in the following pages.



and large rivers. Formed by nature for braving the severest cold; feeding equally on the produce of the sea, and of the land; possessing powers of flight capable of outstripping even the tempests themselves; unawed by any thing but man; and from the ethereal heights to which he soars, looking abroad, at one glance, on an immeasurable expanse of forests, fields, lakes and ocean, deep below him, he appears indifferent to the little localities of change of seasons; as in a few minutes he can pass from summer to winter, from the lower to the higher regions of the atmosphere, the abode of eternal cold, and from thence descend at will to the torrid or the arctic regions of the earth. He is therefore found at all seasons in the countries he inhabits; but prefers such places as have been mentioned above, from the great partiality he has for fish.

In procuring these he displays, in a very singular manner, the genius and energy of his character, which is fierce, contemplative, daring and tyrannical; attributes not exerted but on particular occasions; but when put forth, overpowering all opposition. Elevated on the high dead limb of some gigantic tree that commands a wide view of the neighbouring shore and ocean, he seems calmly to contemplate the motions of the various feathered tribes that pursue their busy avocations below; the snow white Gulls slowly winnowing the air; the busy *Tringæ* coursing along the sands; trains of Ducks streaming over the surface; silent and watchful Cranes, intent and wading; clamorous Crows, and all the winged multitudes that subsist by the bounty of this vast liquid magazine of nature. High over all these hovers one, whose action instantly arrests all his attention. By his wide curvature of wing, and sudden suspension in air, he knows him to be the *Fish-Hawk*, settling over some devoted victim of the deep. His eye kindles at the sight, and balancing himself, with half opened wings, on the branch, he watches the result. Down, rapid as an arrow from heaven, descends the distant object of his attention, the roar of its wings reaching the ear as it disappears in the deep, making the

surges foam around! At this moment the eager looks of the Eagle are all ardor; and levelling his neck for flight, he sees the Fish-Hawk once more emerge, struggling with his prey, and mounting in the air with screams of exultation. These are the signal for our hero, who, launching into the air, instantly gives chase, soon gains on the Fish-Hawk, each exerts his utmost to mount above the other, displaying in these rencontres the most elegant and sublime aerial evolutions. The unincumbered Eagle rapidly advances, and is just on the point of reaching his opponent, when with a sudden scream probably of despair and honest execration, the latter drops his fish; the Eagle poising himself for a moment, as if to take a more certain aim, descends like a whirlwind, snatches it in his grasp ere it reaches the water, and bears his ill-gotten booty silently away to the woods.

These predatory attacks and defensive manœuvres of the Eagle and the Fish-Hawk, are matters of daily observation along the whole of our sea board, from Georgia to New England, and frequently excite great interest in the spectators. Sympathy, however, on this as on most other occasions, generally sides with the honest and laborious sufferer, in opposition to the attacks of power, injustice and rapacity, qualities for which our hero is so generally notorious, and which, in his superior *man*, are certainly detestable. As for the feelings of the poor fish they seem altogether out of the question.

When driven, as he sometimes is, by the combined courage and perseverance of the Fish-Hawks from their neighbourhood, and forced to hunt for himself, he retires more inland, in search of young pigs, of which he destroys great numbers. In the lower parts of Virginia and North Carolina, where the inhabitants raise vast herds of those animals, complaints of this kind are very general against him. He also destroys young lambs in the early part of spring; and will sometimes attack old sickly sheep, aiming furiously at their eyes.

In corroboration of the remarks I have myself made on the manners of the Bald Eagle, many accounts have reached me from various persons of respectability, living on or near our sea coast; the substance of all these I shall endeavour to incorporate with the present account.

Mr. John L. Gardiner, who resides on an island of three thousand acres, about three miles from the eastern point of Long island, from which it is separated by Gardiner's bay, and who has consequently many opportunities of observing the habits of these birds, has favored me with a number of interesting particulars on this subject; for which I beg leave thus publickly to return my grateful acknowledgment.

"The Bald Eagles," says this gentleman, "remain on this island during the whole winter. They can be most easily discovered on evenings by their loud snoring while asleep on high oak trees; and when awake their hearing seems to be nearly as good as their sight. I think I mentioned to you that I had myself seen one flying with a lamb ten days old, and which it dropped on the ground, from about ten or twelve feet high. The struggling of the lamb, more than its weight, prevented its carrying it away. My running, hallooing, and being very near, might prevent its completing its design. It had broke the back in the act of seizing it; and I was under the necessity of killing it outright to prevent its misery. The lamb's dam seemed astonished to see its innocent offspring borne off into the air by a bird.

"I was lately told," continues Mr. Gardiner, "by a man of truth, that he saw an Eagle rob a Hawk of its fish, and the Hawk seemed so enraged as to fly down at the Eagle, while the Eagle very deliberately, in the air, threw himself partly over on his back, and while he grasped with one foot the fish, extended the other to threaten or seize the Hawk. I have known several Hawks unite to attack the Eagle; but never knew a single one

“to do it. The Eagle seems to regard the Hawks as the Hawks do the King-birds, only as teasing troublesome fellows.”

From the same intelligent and obliging friend I lately received a well preserved skin of the Bald Eagle, which, from its appearance, and the note that accompanied it, seems to have belonged to a very formidable individual. “It was shot,” says Mr. Gardiner, “last winter, on this island, and weighed thirteen pounds, “measured three feet in length, and seven from tip to tip of the “expanded wings; was extremely fierce looking; tho wounded “would turn his back to no one; fastened his claws into the “head of a dog, and was with difficulty disengaged. I have rode “on horseback within five or six rod of one, who, by his bold demeanour, raising his feathers, &c. seemed willing to dispute the “ground with its owner. The crop of the present was full of mutton from my part blood Merinos; and his intestines contained “feathers, which he probably devoured with a Duck, or Winter “Gull, as I observed an entire foot and leg of some water fowl. “I had two killed previous to this which weighed ten pounds avoirdupois each.”

The intrepidity of character, mentioned above, may be farther illustrated by the following fact, which occurred a few years ago near Great Egg-harbour, New Jersey. A woman who happened to be weeding in the garden, had set her child down near, to amuse itself while she was at work; when a sudden and extraordinary rushing sound, and a scream from her child alarmed her, and starting up she beheld the infant thrown down, and dragged some few feet, and a large Bald Eagle bearing off a fragment of its frock, which being the only part seized, and giving way, providentially saved the life of the infant.

The appetite of the Bald Eagle, tho habituated to long fasting, is of the most voracious and often the most indelicate kind. Fish, when he can obtain them, are preferred to all other fare. Young lambs and pigs are dainty morsels, and made free with on all fa-

vorable occasions. Ducks, Geese, Gulls and other sea fowl, are also seized with avidity. The most putrid carrion, when nothing better can be had, is acceptable; and the collected groups of gormandizing Vultures, on the approach of this dignified personage, instantly disperse, and make way for their master, waiting his departure in sullen silence, and at a respectful distance, on the adjacent trees.

In one of those partial migrations of tree squirrels that sometimes take place in our western forests, many thousands of them were drowned in attempting to cross the Ohio; and at a certain place, not far from Wheeling, a prodigious number of their dead bodies were floated to the shore by an eddy. Here the Vultures assembled in great force, and had regaled themselves for some time, when a Bald Eagle made his appearance, and took sole possession of the premises, keeping the whole Vultures at their proper distance for several days. He has also been seen navigating the same river on a floating carrion, tho scarcely raised above the surface of the water, and tugging at the carcass, regardless of snags, sawyers, planters or shallows. He sometimes carries his tyranny to great extremes against the Vultures. In hard times, when food happens to be scarce, should he accidentally meet with one of these who has its craw crammed with carrion, he attacks it fiercely in air; the cowardly Vulture instantly *disgorges*, and the delicious contents are snatched up by the Eagle before they reach the ground.

The nest of this species is generally fixed on a very large and lofty tree, often in a swamp, or morass, and difficult to be ascended. On some noted tree of this description, often a pine or cypress, the Bald Eagle builds, year after year, for a long series of years. When both male and female have been shot from the nest, another pair has soon after taken possession. The nest is large, being added to and repaired every season, until it becomes a black prominent mass, observable at a considerable distance. It is formed of large sticks, sods, earthy rubbish, hay, moss, &c. Many have stated to

me that the female lays first a single egg, and that after having sat on it for some time she lays another; when the first is hatched the warmth of that, it is pretended, hatches the other. Whether this be correct or not I cannot determine; but a very respectable gentleman of Virginia assured me, that he saw a large tree cut down, containing the nest of a Bald Eagle, in which were two young, one of which appeared nearly three times as large as the other. As a proof of their attachment to their young, a person near Norfolk informed me, that in clearing a piece of woods on his place, they met with a large dead pine tree, on which was a Bald Eagle's nest and young. The tree being on fire more than half way up, and the flames rapidly ascending, the parent Eagle darted around and among the flames, until her plumage was so much injured that it was with difficulty she could make her escape, and even then, she several times attempted to return to relieve her offspring.

No bird provides more abundantly for its young than the Bald Eagle. Fish are daily carried thither in numbers, so that they sometimes lie scattered round the tree, and the putrid smell of the nest may be distinguished at the distance of several hundred yards. The young are at first covered with a thick whitish or cream colored cottony down; they gradually become of a grey color as their plumage develops itself, continue of the brown grey until the third year, when the white begins to make its appearance on the head, neck, tail coverts and tail; these by the end of the fourth year are completely white, or very slightly tinged with cream; the eye also is at first hazel, but gradually brightens into a brilliant straw color, with the white plumage of the head. Such at least was the gradual progress of this change, witnessed by myself, on a very fine specimen brought up by a gentleman a friend of mine, who for a considerable time believed it to be what is usually called the Grey Eagle, and was much surprised at the gradual metamorphosis. This will account for the circumstance, so frequently observed, of the Grey and White-headed Eagle being seen together, both being

in fact the same species, in different stages of color, according to their difference of age.

The flight of the Bald Eagle, when taken into consideration with the ardor and energy of his character, is noble and interesting. Sometimes the human eye can just discern him, like a minute speck, moving in slow curvatures along the face of the heavens, as if reconnoitring the earth at that immense distance. Sometimes he glides along in a direct horizontal line, at a vast height, with expanded and unmoving wings, till he gradually disappears in the distant blue ether. Seen gliding in easy circles over the high shores and mountainous cliffs that tower above the Hudson and Susquehanna, he attracts the eye of the intelligent voyager, and adds great interest to the scenery. At the great cataract of Niagara, already mentioned, there rises from the gulf into which the falls of the Horse-shoe descends, a stupendous column of smoke, or spray, reaching to the heavens, and moving off in large black clouds, according to the direction of the wind, forming a very striking and majestic appearance. The Eagles are here seen sailing about, sometimes losing themselves in this thick column, and again re-appearing in another place, with such ease and elegance of motion, as renders the whole truly sublime.

High o'er the watery uproar, silent seen,  
Sailing sedate in majesty serene,  
Now midst the pillar'd spray sublimely lost,  
And now, emerging, down the rapids tost,  
Glides the Bald Eagle, gazing, calm and slow  
O'er all the horrors of the scene below;  
Intent alone to sate himself with blood,  
From the torn victims of the raging flood.

The White-headed Eagle is three feet long, and seven feet in extent; the bill is of a rich yellow; cere the same, slightly tinged



with green; mouth flesh colored, tip of the tongue bluish black; the head, chief part of the neck, vent, tail-coverts and tail, are white in the perfect or old birds of both sexes, in those under three years of age these parts are of a grey brown; the rest of the plumage is deep dark brown, each feather tipped with pale brown, lightest on the shoulder of the wing, and darkest towards its extremities; the conformation of the wing is admirably adapted for the support of so large a bird; it measures two feet in breadth on the greater quills, and sixteen inches on the lesser; the longest primaries are twenty inches in length, and upwards of one inch in circumference where they enter the skin; the broadest secondaries are three inches in breadth across the vane; the scapulars are very large and broad, spreading from the back to the wing, to prevent the air from passing through; another range of broad flat feathers, from three to ten inches in length, also extend from the lower part of the breast to the wing below, for the same purpose; between these lies a deep triangular cavity; the thighs are remarkably thick, strong and muscular, covered with long feathers pointing backwards, usually called the femoral feathers; the legs, which are covered half way below the knee, before, with dark brown downy feathers, are of a rich yellow, the color of ripe Indian corn; feet the same; claws blue black, very large and strong, particularly the inner one, which is considerably the largest, soles very rough and warty; the eye is sunk under a bony or cartilaginous projection, of a pale yellow color, and is turned considerably forwards, not standing parallel with the cheeks, the iris is of a bright straw color, pupil black.

The male is generally two or three inches shorter than the female; the white on the head, neck and tail being more tinged with yellowish, and its whole appearance less formidable; the brown plumage is also lighter, and the bird itself less daring than the female, a circumstance common to almost all birds of prey.

The bird from which the foregoing drawing and description were taken, was shot near Great Egg-harbour, in the month of January last, was in excellent order, and weighed about eleven pounds. Dr. Samuel B. Smith, of this city, obliged me with a minute and careful dissection of it; from whose copious and very interesting notes on the subject I shall extract such remarks as are suited to the general reader.

“The Eagle you sent me for dissection was a beautiful female. “It had two expansions of the gullet. The first principally composed of longitudinal bundles of fibre, in which (as the bird is “ravenous and without teeth) large portions of unmasticated meats “are suffered to dissolve before they pass to the lower or proper “stomach, which is membranous. I did not receive the bird time “enough to ascertain whether any chyfication was effected by the “juices from the vessels of this enlargement of the œsophagus. I “think it probable that it also has a regurgitating or vomiting “power, as the bird constantly swallows large quantities of indigestible substances, such as quills, hairs, &c. In this sac of the “Eagle I found the quill feathers of the small white gull; and in “the true stomach the tail and some of the breast feathers of the “same bird; and the dorsal vertebræ of a large fish. This excited “some surprise, until you made me acquainted with the fact of its “watching the Fish Hawks, and robbing them of their prey. Thus “we see, throughout the whole empire of animal life, power is almost always in a state of hostility to justice, and of the Deity “only can it truly be said, that *justice* is commensurate with *power*!

“The Eagle has the several auxiliaries to digestion and assimilation in common with man. The liver was unusually large in “your specimen. It secretes bile, which stimulates the intestines, “prepares the chyle for blood, and by this very secretion of bile, “(as it is a deeply respiring animal) separates or removes some “obnoxious principles from the blood. (See Dr. Rush’s admirable “lecture on this important viscus in the human subject.) The in-

“ testines were also large, long, convolute and supplied with numerous lacteal vessels, which differ little from those of men, except in color, which was transparent. The kidneys were large, and seated on each side the vertebræ, near the anus. They are also destined to secrete some offensive principles from the blood.

“ The eggs were small and numerous; and after a careful examination, I concluded that no sensible increase takes place in them till the *particular* season. This may account for the unusual excitement which prevails in these birds in the sexual intercourse. Why there are so many eggs is a mystery. It is perhaps consistent with natural law, that every thing should be abundant; but from this bird, it is said, no more than two young are hatched in a season, consequently no more eggs are wanted than a sufficiency to produce that effect. Are the eggs numbered originally, and is there no increase of number, but a gradual loss till all are deposited? If so, the number may correspond to the long life and vigorous health of this noble bird. Why there is but two young in a season is easily explained. Nature has been studiously parsimonious of her physical strength, from whence the tribes of animals incapable to resist, derive security and confidence.”

The Eagle is said to live to a great age, sixty, eighty, and as some assert, one hundred years. This circumstance is remarkable, when we consider the seeming intemperate habits of the bird. Sometimes fasting, through necessity, for several days, and at other times gorging itself with animal food till its crop swells out the plumage of that part, forming a large protuberance on the breast. This, however, is its natural food, and for these habits its whole organization is particularly adapted. It has not like men invented rich wines, ardent spirits, and a thousand artificial poisons in the form of soups, sauces and sweetmeats. Its food is simple, it indulges freely, uses great exercise, breathes the purest air, is heal-

thy, vigorous and long lived. The lords of the creation themselves might derive some useful hints from these facts, were they not already, in general, too wise, or too proud, to learn from their *inferiors*, the fowls of the air and beasts of the field.

END OF VOLUME IV.

















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